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The Journal of the Fire Protection Profession

MARCH 4, 1931

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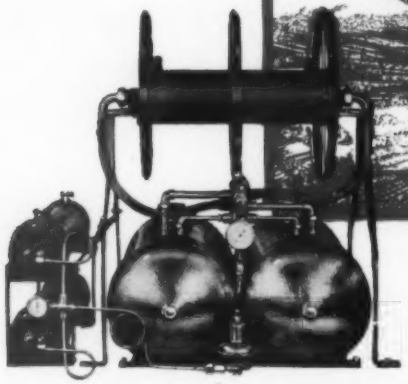

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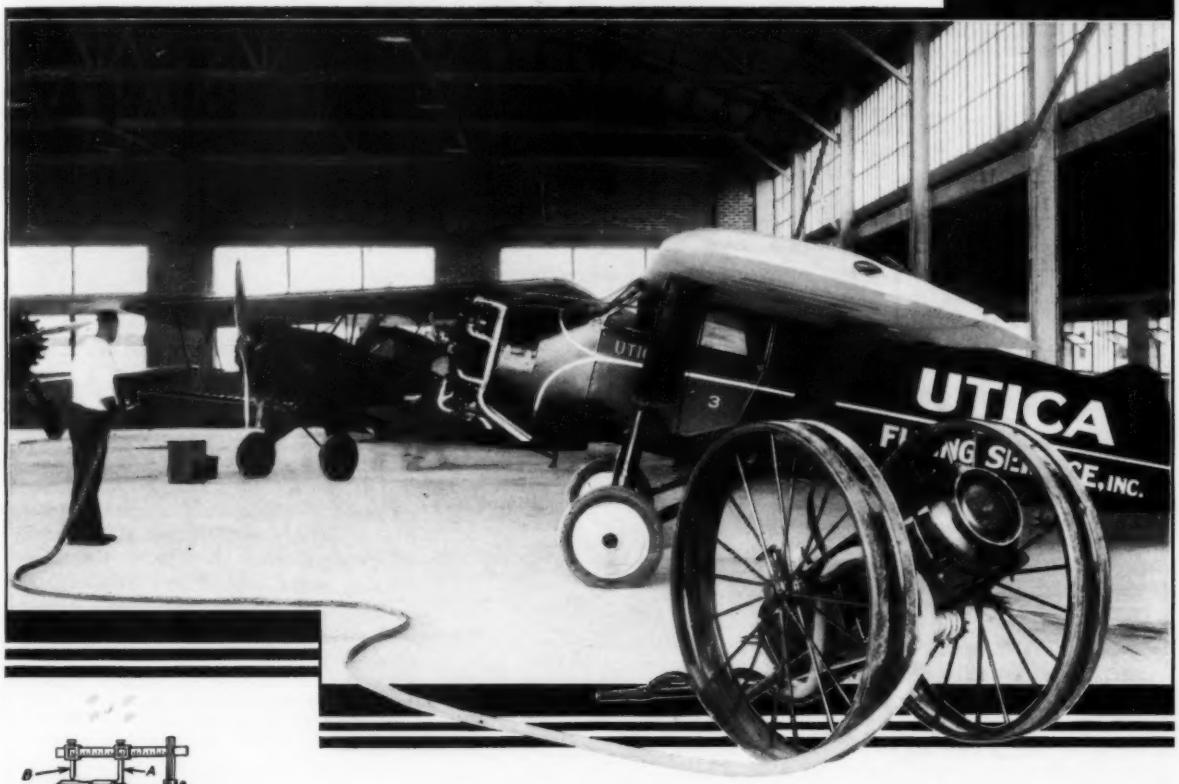

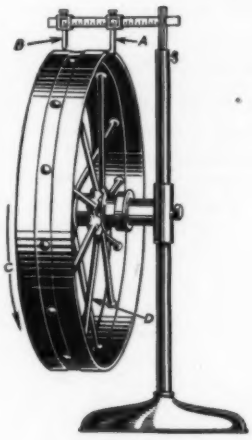

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FIRE ENGINEERING

A Consolidation of FIRE AND WATER ENGINEERING AND THE FIRE ENGINEER

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A Figure of Judgment

JUST as a man is judged by the quality of his friends, so is a magazine judged by the constancy of its readers.

¶ In this respect it has been our pleasure to enjoy a vote of confidence that comes pretty close to being unequalled in publishing annals. An analysis of FIRE ENGINEERING'S circulation figures for the past year shows that *more than 83% of our subscriptions expiring during 1930 were renewed.* This is a record very few publications have ever been able to achieve.

¶ When it is considered that FIRE ENGINEERING is sold strictly on its own merits, without any resort to premiums or other high-pressure circulation-getting methods, this unusually high renewal figure is truly significant—it's something that should be of particular interest to our advertisers and our prospective advertisers.

The Publishers

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Announcing the FEDERAL-TYFON *Signal*

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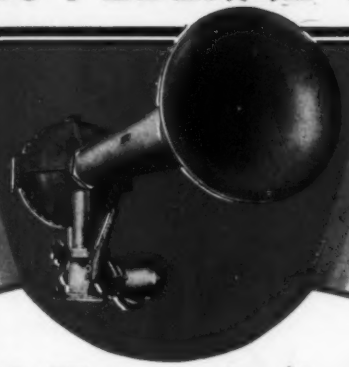
NEW ECONOMY
NEW FLEXIBILITY



AMAZINGLY SIMPLE
POSITIVE OPERATION
NOT DEPENDENT ON
ELECTRICAL POWER

A NEW *Type of Air Alarm— Engineered for Modern Fire Protection—*

JUST as a good soldier must soldier for a while before he is promoted, so the Federal-Tyfon has been made to prove its reliability, its adaptability to meet stiff competition of all kinds, and its capability to serve under fire, before it was granted honors. Now, not only we, but many cities know and appreciate its positive services and advantages as a Fire Alarm Signal.

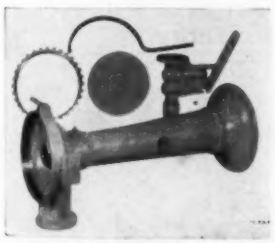
It has no equal for simplicity of parts and economy of operation. It is up to three times as efficient as any other air whistle, and only requires 1/5 to 1/3 the amount of compressed air for operation. And, of most importance to cities, the Federal-Tyfon Signal *operates on low air pressures—this affords opportunity for considerable savings in original installation and in maintenance. Also, air storage is available for more and longer alarms to be sounded at one time.*

This shows how one city progresses with Federal Fire Alarm Protection. You see first the old fire alarm bell. The Federal horizontal Type "B" Siren was then installed to give better fire alarm protection. This was years ago. Now, today a complete Federal-Tyfon Air System gives the most modern and adequate of fire alarms.

As some evidence of the tone power of the Federal-Tyfon Signal, it is being installed by cities to replace their steam fire alarm whistle. Tone power and range was wanted and the Federal-Tyfon Signal proved that it could satisfy their demands.

There are four sizes of Federal-Tyfon Signals with diaphragms of varying thicknesses to accommodate different air pressures. This means that a city can have a wide choice in selecting a tone pitch suitable for its needs and can make this tone pitch as powerful as demanded. The great flexibility permissable in a Federal-Tyfon Signal installation grants a city the opportunity to have a "tailor-made" fire alarm to fit the circumstances and conditions that eixst. For this reason and many others, we speak from the experience of cities who now operate a Federal-Tyfon Signal System and urge you to consider it for the fire protection alarm for your city.

Note the four simple parts that make up the Federal-Tyfon Signal —just a horn and diaphragm holder in one piece, a diaphragm, a fixing screw ring and an operating valve. An adjustment wrench is included for the larger size Federal-Tyfon Signal, but is not part of the Signal itself.



Horn and diaphragm holder in one piece is made of heavy gunmetal —diaphragm is built of phosphor bronze — fixing screw ring and valve are also of bronze.

You realize how important it is that your fire alarm be positive, powerful and built to meet modern conditions. Fire is a stubborn, tricky and costly enemy—the best tools only will conquer him. If you will send a few physical facts about your city, size, area—we shall be glad to send suggestions at no cost and no obligation.

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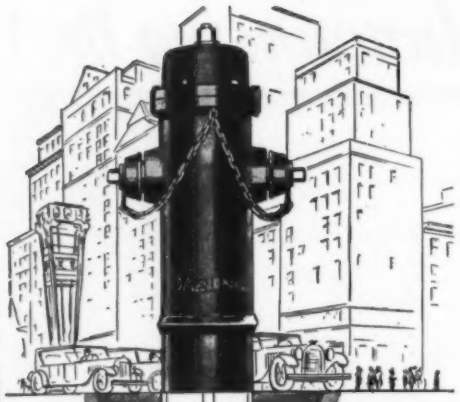

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FIRE HYDRANTS

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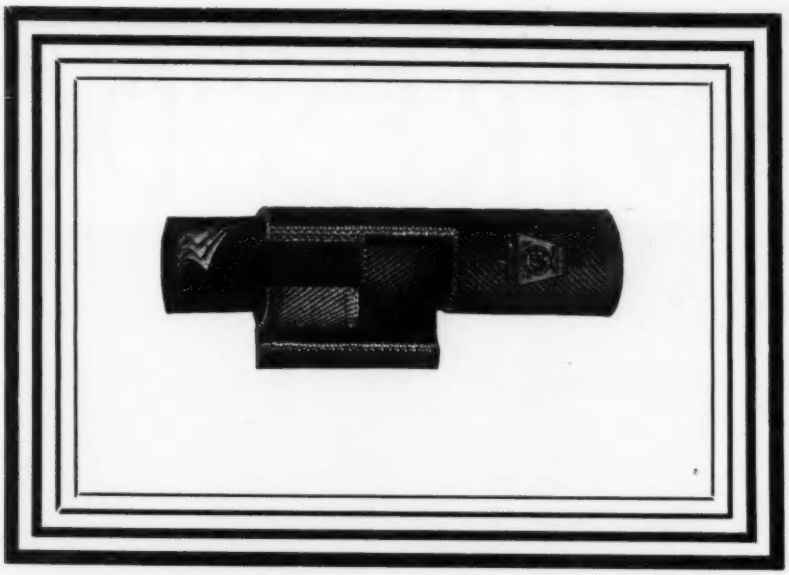

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WIRES DOWN!

BUT FIRE ALARM BOXES STILL OPERATE

Sleet storms raise havoc with all overhead communication lines. In the past they have been a source of constant worry to those in charge of fire alarm systems in the northern climate, because they meant broken and grounded circuits and this meant fire alarm boxes out of commission for indefinite periods during which delayed alarms might result in disastrous losses of life and property.

Now, there is a practical protection against this condition. The 1931 Peerless Fire Alarm Box guards against loss of alarms—its 3-FOLD principle of alarm transmission causes the alarm to be sent to the central office through the ground whenever a 1931 Box is operated on a broken or grounded fire alarm circuit, provided the other side of the circuit is intact.

Fire chiefs, superintendents of fire alarm, city electricians and other city officials should acquaint themselves with this important improvement in the fire alarm art. A more complete description will gladly be sent upon request.

THE GAMEWELL COMPANY

NEWTON, MASSACHUSETTS

"A Box A Block"

FIRE ENGINEERING

(A Consolidation of FIRE AND WATER ENGINEERING AND THE FIRE ENGINEER)

The Journal of the Fire Protection Profession

VOLUME LXXXIV MARCH 4, 1931 NUMBER 5

Speeding the Department on Its Way

Narrow Traffic Lanes Caused by Parked Automobiles Retard Quick Response—Summary of Conditions in Representative Cities

By N. N. WOLPERT, Assistant Editor, FIRE ENGINEERING

MURPHY had had his post for years. He was as much a fixture of the neighborhood as Doc Henry's drug store of the corner or Station 6 which was about one hundred feet down on the side street. In fact, he took considerable pride that he antedated Doc by several months.

It was his chief delight to clear the traffic on the thoroughfare when he heard the warning signal on Station 6. And as the speeding apparatus would rush by, he would wave a salute to the men on the rear step as if to say:

"You lucky dogs! Nothing like a ride on a nice sunny day."

If there was not too much noise, a passerby could hear the men shout as they went by:

"Pretty soft for you, Murphy."

And he would grin. He knew.

On this March afternoon, Murphy looked up as he heard the bell of returning apparatus. But he could not understand what had taken place for a different piece of equipment and new faces were moving towards the station.

There had been an accident. The massive engine was wrecked and many of the boys were badly injured. Many had witnessed the incident. Each had a different version of who was to blame. Fundamentally, there were numerous factors to consider. Was it the driver's fault, or was it due to traffic, parked cars, a taxicab or a pedestrian?

It is interesting to note that a study of accidents to New York Fire Department apparatus made by the Department, the figures revealed that there were twice as many accidents at street intersections as there were between the blocks, and that there were twice as many accidents caused by commercial trucks as there were by taxis and pleasure vehicles.

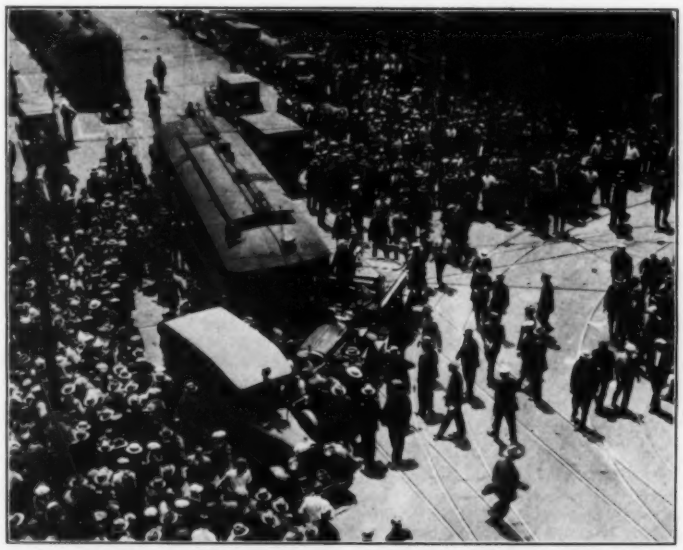
New York City must face practically all the specialized problems that confronts the average American city. It has its shopping area, one way streets, wholesale district, old and narrow streets, parked automobiles and perhaps the greatest theatre section. All of these problems are not so much aggravated by the normal or abnormal growth of population as it is by the increasing number of motorists.

In the old days—perhaps it might be well to say in the gay nineties—the wealthier part of the population owned horses and wagons. To properly maintain this luxury it was necessary to provide feed for the animals, and a caretaker or stableman. And since all this meant considerable of a financial burden, the traffic problem was not a serious one. But with automobiles things are different.

The automoblie situation is becoming more acute each year. A computation was made that in 1912 there were 730 automobiles for each 100,000 persons. In 1922 this figure increased to 6,037 cars and in 1927 there were 10,711 automobiles for each 100,000 persons or roughly one-tenth of the population owned motor vehicles. Possibly the situation might be better presented by mentioning that during a five-year period, the number of automobiles had increased 178 per cent.

To the population class known as motorists, it seems as though every other motorist is anxious to reach the same place at about the same time. During the thirty minutes preceding the "curtain hour" in the theatres, persons from all over the city move into the white light zone and an acute situation develops. Sometimes it seems as though it is impossible to cut a wedge through the slow moving maze of traffic.

A number of organizations, including the New York Board of Fire Underwriters, co-operated with the Merchants Association of New York to make a study of local conditions. Several zones were considered and investigators hired taxicabs to travel a short distance through the intricate mass of cars and they noted the time that it required to make the journey.



Just One of the Too Many Fire Department Accidents in the Country

Three surveys were made. Inspectors hired cabs during the periods between 8:00 and 8:30 p.m., and traveled from Sixth to Tenth Avenues and back on the adjoining block. The trip required covering five long cross town streets, one short up town street and then back on five long cross town streets. The average time on one study was eleven minutes and ten seconds with six minutes as the shortest time and eighteen minutes and thirty seconds for the longest period. In the zone cut off by 42nd and 52nd Streets, the longest time was nineteen minutes, and fourteen minutes was the average period.

A study was also made of the parked car situation in the theatre zone, for it was suspected that all the slowing down of the normal

The Fire Department Is Expected to Find an Open Lane Through This Maze and to Respond With the Least Possible Delay

A photograph of New York City's famous Fifth Avenue at about the afternoon hour when residents of the better apartments motor in for their shopping. Six lanes of cars cover the complete stretch of this wide street.

traffic movement was caused by the decreased width of the traffic lane. One study made from 39th to 57th Streets revealed that there were 14,000 parked cars. Another study of the theatre zone made between 35th to 59th Streets, a larger area, showed a total of 24,500 parked automobiles.

As a result of this very illuminating study, the Police Department issued a ruling prohibiting the parking of cars in the so-called theatrical area during theatre time. On many streets, the ordinance resulted in doubling the width of traffic lanes and helped the Fire Department by cutting down the number of bunched cars between blocks waiting for the color of the traffic light to change.

One way streets have facilitated the movement of fire apparatus. Such a plan results in one way movement of traffic on alternate streets. Even should the Department be blocked for a moment by bunched up vehicles waiting for the right to procede, an efficient traffic officer can have the lane cleared in but a short time.

While on this topic, an unusual case in the Magistrate's court may prove of interest. A motorist on a side street was waiting for the red light to change. Behind him was a fire company on its way to a fire. Firemen operated the siren and bell to indicate that the car ahead was blocking their way. The motorist was confronted by the question of moving against the light and to treat the case as an emergency or to obey the law and wait for the traffic signal. He waited. The case was taken to court but the motorist was discharged.

Loading in the Wholesale Section

The wholesale market section of the city presents another acute problem. Streets are generally narrow and in many cases the buildings facing the street were constructed many years ago. It appears to be the practice for most of the trucks to back up at an angle so that the rear of the truck is close to a freight elevator opening or a loading platform. As the trend at present appears to be towards larger trucks to cut down transportation costs, the front end will extend well towards the center of the highway, even beyond a position occupied by the automobile parked parallel to the curb. Where the streets are narrow and loading or unloading is in progress on both sides of the street, a narrow zigzag lane is left for traffic. Because of the extra caution necessary and one car width lane for traffic, vehicles have to move at a very slow pace.

In the newer wholesale districts, all this is eliminated. Buildings are so designed that it is possible to move the truck to a loading platform within the building line. Merchandise may then be moved in or out without affecting pedestrian or motor travel. Not only is this the practical solution to one angle of the problem, but it is a money saver from the standpoint of the merchant. As the truck is under cover at all times, there is no chance of rain or snow spotting less stable merchandise.

Shopping Area Is Very Congested

The shopping area presents other problems. The sidewalks have an abnormal number of pedestrians who are either liesurely window shopping or are else out to make purchases. At many points traffic overflows the sidewalks and those in a hurry walk in the road near the curb. At street intersections, the shoppers appear to cross without any regard to the direction of traffic, and in order to eliminate this, policemen have been stationed at the busiest corners to hold back pedestrians until the traffic lights change color. Taxicabs are constantly bringing in shoppers or cruising in the neighborhood hoping to secure a fare. In addition, in the more fashionable shopping districts there is a tendency for cars to be parked for long periods of time while purchases are being made.

Unlike the wholesaler who is not at all concerned with street conditions other than the movement of his merchandise, the retail merchant feels that there is a direct relation between the traffic situation and the volume of business recorded in his store. He has cooperated to his fullest extent and in many cases is in advance of city regulations.

To eliminate the assembly of a large number of delivery cars, department stores are now moving their merchandise at night. All packages to be delivered to customers are loaded in trucks late at night when streets are practically free from vehicles, and the load taken to distributing warehouses. From these points the parcels are loaded in smaller delivery trucks in the morning and sent to various routes. This frees the congested business streets from additional slow moving cars and also prevents blocked side streets while the drivers are waiting to have their car loaded.

The waiting car question has also been solved to some extent. After discharging the passenger, the chauffeur is

(*Continued on page* 175)

An Outline of Methods Employed in

Salvage Operations at Fires

Lessons Giving Instructions as to Methods Considered Good Practice in This Work—Best Arrangement of Goods for Salvage Purposes

SINCE the intensity of the fire and therefore the amount of water, smoke, and debris will vary for different fires, the amount of salvage possible for stocks of like kind will not always be the same. There is, however, a definite relation between certain characteristics of merchandise and the salvage to be expected. These characteristics are generally analyzed under the headings: Removability, Combustibility, and Damageability.

Removability

The element of time enters largely into any fire. The period it would take for a fire to spread from one point to another can be utilized by removing articles, which would otherwise be damaged, to some point of safety. This is a natural impulse on the part of the individual, but is seldom practiced in a systematic way except by well-trained and highly developed organizations. Some fire departments make it a point to move or otherwise protect merchandise before directing water streams, when events permit. It is common for salvage organizations to carry stock to adjoining buildings, an operation that is recognized as good practice.

Removability is of course dependent on the size and weight and is probably of the greatest value when considered in connection with grade floor occupancies. However, it is a factor wherever salvage work is possible as it permits grouping of stocks so that they may be protected with a salvage cover.

The accompanying instructive symposium on Salvage operations at fires has been furnished through the courtesy of Chief Edward H. Warr, of the Baltimore, Md., Fire Insurance Salvage Corps. It comprises Lessons No. 21 and 21A of the Salvage Corps' School of Instruction. In transmitting copies of the Lessons to "Fire Engineering," Chief Warr writes:

"This lesson was attended by practical demonstrations given by the members of the Salvage Corps under the direction of myself. The demonstration included the proper and most efficient manner in which to spread a cover, how to bag a cover on a floor, how to bag a cover under a ceiling and direct the firewater out a window and the most effective manner in which saw-dust could be used to absorb water. This lesson and demonstration was well received by more than 150 members of the various volunteer fire companies throughout the state of Maryland. This School is held for the purpose of educating these volunteer firemen to perform effective Salvage Operations in their respective communities."

Combustibility

The ease with which material will burn or its susceptibility to burning enters largely into the amount of salvage one may expect. The combustibility of the stock is not always dependent on the stock itself, but may be largely contributed to by the way the stock is boxed, wrapped or packed. Another factor is the amount on hand, whether this is spread out for display or piled in quantities, as in warehouses. A spread-out stock may increase the area affected by fire. Improperly piled stock may, with certain stock, increase the danger of spontaneous ignition; or, because of concealed spaces and inaccessibility be subjected to great damage for the reason that fire in such piles of stock cannot be easily located or reached, nor is the stock as easily protected from a salvage standpoint.

Irrespective of the method of packing, warehousing, or displaying, stocks are usually considered as in one of five classes of combustibility:

1. Slow burning or incombustible.
2. Moderate burning.
3. Free burning.
4. Intense burning.
5. Flash burning.

As was previously remarked, combustibility will be largely governed by the material used in packing and some stocks should grade as more hazardous than others because of the nature of this feature. When stocks are mixed in large quantities the extent of combustion will usually be dependent on the stock of highest combustibility.

Damageability

The extent of damage possible will be dependent on the method of packing or wrapping and the degree of protection furnished by such covering. The inherent ability of certain stocks to withstand combustion, heat, water, smoke, falling debris, breakage, dirt, and the removability of the stock are factors affecting salvage. For purposes of this discussion stock can be considered as divided into five classes of damageability:

1. Low.
2. Medium.
3. High.
4. Extra High.
5. Indefinite (applied to a mixed or constantly changing stock).

One can conclude from the foregoing that removability, combustibility and damageability are largely dependent on the methds used in displaying, storing, and packing. In order that goods be salvaged it is essential that they be arranged or stocked so that they can be easily protected and there are certain other common sense precautions that should be complied with.

Generally speaking, merchandise in transit, in warehouses, or on display should be protected against water damage and packed in units of a size capable of being readily moved and handled, in containers of sufficient strength to maintain the integrity of the protection under the conditions met in practice, bearing in mind that not only may it be exposed to rains and dampness, but also water used at fires. An ideal container should be strong, water-proof, resist smoke, be readily handled and be fire-resistive.

Waterproofing will necessarily involve the use of oil, wax, asphaltum or other compounds. The hazard due to the accumulation of treated wrappings when unpacking, their combustibility, and effect on various merchandise must be considered. It is apparent that there is an opportunity for improving from a salvage viewpoint, the packing of shoes, rugs, hardware, paper, furniture, and a number of other articles.

Warehousing or Storage

In order to facilitate salvage certain methods described below should be followed in the storage of merchandise not immediately needed for display or sale.

Water has a tendency to flow down side walls, regardless of type of construction. For this reason, stock should not be piled against walls or columns. There is a fairly free flow of water through most floorings and such water collects in pools and puddles. Because of this all stock should be skidded and not stacked directly on the floor.

A salvage cover as commonly used is either 12 by 18 feet, or 14 by 18 feet and when stocks are piled they should never cover an area greater than one of these covers. To facilitate spreading these covers a space of at least 3 feet should be left between the top of the stocks and the ceiling.

Where stacks are high, the piles should be stable with some means provided, such as staggering boxes, so that a man can climb to the top of the stack to spread covers.

Regulations for the storing and handling of various articles such as combustible fibres and rolled paper require certain aisle space to provide for expansion due to absorption of water, for removal of exposed stock, etc. Accessibility is a requirement in any case and stock should be piled with a view to permitting easy access and rapid removal limiting concealed spaces, avoiding the formation of spaces which would act as flues, and wherever practicable should be so arranged that stocks of relatively high combustibility are separated by stocks of lower combustibility.

Displaying

A merchant's main purpose is to so display his merchandise that it will attract sales. Stock in frequent demand is usually located where it can be easily and quickly purchased and stocks requiring more time for selection, such as hats, clothing, etc., are usually in convenient though less accessible places. In most large stores, storage and workrooms are on the top floor and shipping rooms in the basement.

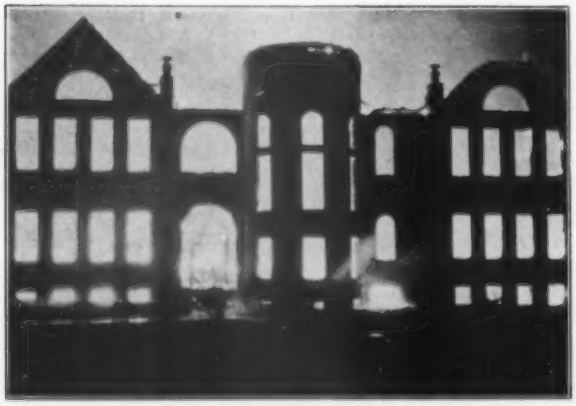
Arranging for Salvage

While the sales viewpoint will dictate the general arrangement and display of merchandise, it should be an easy matter to place it in a manner that will increase salvage in case of fire without interfering with sales. For instance, there is no reason why stock should not be separated according to combustibility and at points advantageous from the standpoint of fire and water damage. Regardless of the association of different classes of merchandise, there is a very apparent opportunity to improve conditions under which stocks are now displayed for sale.

Shelving

Shelving should be so constructed that goods cannot be pushed back against the wall. A space of 2 inches between the wall and the back of the shelves should be maintained. This can be done by closing the back of the shelving with wire netting. The top of the shelving should be kept free from the accumulation of boxes or similar things and should have a clearance from the ceiling to permit a salvage cover being placed so that it can hang down the back of the shelving, forming a drip, for at least two feet. When the foregoing is not complied with and shelving uprights are carried to the ceiling in order to wedge such shelving in place, the space between uprights should permit a cover to be placed so as to hang down the back. This will require at least 12 feet between uprights.

A rigid waterproof roof extending from the wall to 6 inches in front of the shelving is recommended, with a wooden apron at least 4 inches in depth at the vertical line of the front edge of the shelving. This roof should be pitched not less than 1 inch to the foot.



School Building Destroyed In Irwin, Pa.

Three volunteer firemen were injured while fighting a spectacular night fire in Irwin, Pa., that completely destroyed a three-story brick building valued at $150,000. Fire companies responded from Herminie, Westmoreland City, Jeanette, Greensburg and Penn Manor. The structure was the only school building. When firemen arrived the flames had gained considerable headway.

WILLIAM E. PATTERSON.

Cases, Cabinets and Display Equipment

As a general thing, display furniture should be sturdy; enclosing cases and cabinets should be watertight; shelving and counters should be designed to permit easy covering with salvage covers; and all open trays and counters should be covered at night with a light, waterproof dust cover.

Cases in which goods are commonly displayed, such as jewelry, should be watertight.

Cabinets are often used to enclose cloaks, furs, and expensive garments; ordinarily these are glass enclosed, and cover considerable area. The roof or covering of such cabinets and of dressing rooms should be watertight and strong enough to hold a man's weight.

False ceilings and decks are commonly erected to support lighting fixtures at a height simulating actual conditions of installation. They should be sturdy and watertight.

Racks are used to support dresses and suits on hangers and should be so constructed that if a cover is thrown over them the cover will not rest on the shoulder of the garments as this occasionally results in soiling the garments. Racks should be so constructed that they are not easily tipped over.

Aisle trays and tables should be easily moved, should not be capable of being easily upset, and should not be filled to overflowing. In the event of fire these aisle tables will be shoved out of the way and excess stock is likely to be spilled. At night they should be covered with a light dust and waterproof cover.

Counters or tables displaying china and glassware which is more subject to breakage than any other damage are covered with the intent of protecting such stock from falling debris and plaster. The tables on which glassware and china is displayed should be equipped with a pipe frame over which a cover can be thrown without disturbing the stock.

Boxes and containers used should be able to withstand a reasonable amount of water. Bolt goods, silks, woolens, linens, and similar fabrics should be wrapped in a waterproof paper. The same precaution apply to paper and hardware. In general, it may be said that all goods carried in some form of container or wrapping should have the container or wrapping of a grade capable of withstanding the smoke and water to which they may be subjected at time of a fire.

In considering the effect of a fire on various stocks it is generally conceded that the greatest salvage value will ordinarily be found in staples, for the reason that these can be reclaimed and have a market even at a reduced price. This is particularly true of dry goods. Novelties, generally bought for gift purposes, lose their entire value when damaged. Among the many things affecting salvage value is the fashion of the day or style; a change of style may reduce the value of an article to practically nothing. Shopwear, indicated by faded colors, tarnished metallic embroideries, and soilage, to mention a few of the common effects, must be considered in determining values. In the following list little attempt has been made to estimate the value of salvage, the discussion being limited to cause and effect:

1. Art Embroidery Goods: This class includes cottons, linens, silks, or mixed fabrics, usually stamped or stenciled in colors to be worked in embroidery silk, cotton or twist. Such stocks accumulate in stores particularly before Christmas.

The value of finished articles is mostly in the work put in on the piece. Damage from smoke and water stains is likely to be heavy, particularly in colored materials. White pieces can sometimes be washed. Laundering will destroy new appearance in sheet material.

The embroidery silks or twists used may suffer heavily from water damage due to colors running. Some silks become rough and hard to work if thrown around and wet.

2. Baled Goods: Compressed bales of goods of all kinds are invariably less affected by fire than loosely packed materials of the same kind for the obvious reason that though the outside of the bales may become charred and burned the centers are often unaffected by fire. The salvage of baled goods can be improved by wrappings of waterproofed material.

3. Bolt Goods: Various grades of silks, woolens, linens, etc., are wrapped in ordinary grades of paper, and frequent losses occur, due to failure of such paper to withstand water. Obviously, bolt goods should be wrapped in waterproof material.

(To be continued)

The Crime of Arson: What the Higher Courts Say About It

Some Important Judicial Decisions Bearing Upon This Vexing Subject—When Burning Is Not a Crime

By LEO T. PARKER, Attorney-at-Law

IT is important to know that an owner of a building may destroy it by fire without being guilty of any crime. In order to constitute arson of any degree it is necessary that the indictment allege that the burning was of a structure resulting in financial loss or belonging to another. Obviously, however, if the accused is found guilty by direct or circumstancial evidence of burning another's property while burning his own he is guilty of the crime of arson.

For instance, in State vs. Murphy, 290 Pac. 1096, a person named Murphy leased the lower floor of a building in which he conducted a restaurant. There was evidence that he had many times expressed the wish that the building would burn. He was not making any money and was compelled to resort to other means in order to live. There was evidence that he asked one of his employees, an old man, to burn the building, and offered to pay him for his services if he would burn the building. Within a very few days after soliciting the aid of his employee to burn the building, Murphy procured the keys to rooms on the second floor of the building. Soon after the building burned. It was found that coal oil had been poured on the floors in the rooms to which Murphy had obtained the keys. In view of this testimony, although Murphy may have intended only to burn his own restaurant fixtures the jury convicted him of the crime of arson. The higher Court upheld this verdict, and said:

"There was material evidence that defendant (Murphy) was involved financially and was being pressed by at least one of his creditors for payment. In our judgment this is sufficient evidence to carry the case to the jury. It is a rule established firmly in this state that where the evidence is circumstancial the defendant must be acquitted, if the circumstances are as consisted with his innocence as with his guilt; but here the circumstances are such as to point directly to the guilt of defendant and evidence of motive is present."

Frequently, it is advantageous for fire department officials to understand the legal reasoning and the kind of evidence required to convict persons of the crime of arson. Generally speaking, proof must be introduced showing either of these existing facts: (1) The accused admitted his guilt; or (2) he was seen setting the fire; or (3) the circumstantial evidence establishes his guilt beyond a reasonable doubt, or reliable witnesses testify that he made assertions, indicating his guilt beyond a reasonable doubt when considered with other guilt indicating testimony.

In some instances proof that the accused endeavored to establish an alibi may be used to obtain his conviction, if the attempt was made before he was accused or suspended. However, such testimony is not relevant if the establishment of an alibi was begun after he was accused or suspected of the crime.

For example, in X vs. State, 28 S. W. (2d) 166, it was shown that two persons X and Y were engaged in the same kind of business and were keen competitors. Y was underselling the other who was threatened with bankruptcy. One night Y's store was burned by a person who saturated the place with kerosene. About one week later X was arrested and released on bond. Some five or six days after the fire X approached the proprietor of a restaurant, where he was eating at the time the fire started, and told him that "if anything came up about the fire" to remember where he (X) was when the fire started. Later X and another person were convicted of arson. X appealed to the higher Court on the grounds that the decision of his conviction was erroneously based upon the fact that he was seen with the guilty person before the fire and that he had requested the restaurant owner to remember that he was in the restaurant when the fire started, and that this statement was considered by the jury to indicate that he was an accomplice of the person who set fire to the building. It is interesting to observe that the higher Court reversed the verdict, and said:

"The mere fact that the two were seen together before the offense was committed is not deemed sufficient to meet the requirements of the statute requiring corroboration of an accomplice witness. . . . At the time he (X) made the purported statement to the restaurant man and knew he was under investigation and likely to be charged with the offense, the probative force of this incriminative statement would be greatly weakened. In other words, an innocent man knowing himself to be under investigation, or knowing that he would be prosecuted, would of course be interested in proving his whereabouts."

Legal Phases of the Crime of Arson Treated in This Article:

- When An Owner May Destroy a Building Without Being Guilty of Any Crime
- Arson Conviction by Circumstantial Evidence
- Testimony Admitted at Preliminary Examination
- Incriminating Testimony
- Admissions to Fire Marshal Aid Arson Conviction
- Evidence of Prior Crime Is Not Admissable
- Liability Resulting From Fire

Arson Conviction By Circumstantial Evidence

Generally speaking, in an arson case it is not sufficient to prove that a fire occurred. There must be proof of circumstances from which the jury will be authorized to find the further fact that such fire was of incendiary origin. Both the incendiary origin of the fire and the guilty agency of the accused may be established by circumstantial evidence. In determining whether or not there is sufficient evidence to support the verdict of guilt, it is a well established rule to accept as true all evidence tending to show the guilt of the accused together with all inferences reasonably and properly to be drawn therefrom. The truth of the testimony and the reasonableness of the inferences to be drawn therefrom are exclusively for the jury.

For illustration, in State vs. Berkowitz, 29 S. W. (2d) 150, it was disclosed that a person named Berkowitz operated a shoe store and shoe repair shop on the first floor of a building. With his wife and two children he occupied the second floor of the building as a residence. An insurance policy for $2,000 was issued on March 5. Half of the insurance was on the merchandise and half on fixtures. On March 23, another $1,000 policy of insurance was placed on the household furniture. A fire occurred on the night of Sunday, April 29.

Evidence was offered at the trial showing the following facts: Two policemen were walking their beat quite near Berkowitz' premises at about 10:30 p.m., when an explosion was heard. By the time they could turn and look flames were shooting out of the front of the store. The fire department was summoned immediately and arrived promptly. It was then found that the fire was general on the first floor and stairway and had spread to the second floor. The blaze was soon extinguished. The fire was burning furiously when first discovered and the odor of gasoline was quite noticeable. After the fire was extinguished the firemen discovered two glass jars, each of about five gallons' capacity, filled to within about two inches of the top with gasoline. The contents had not yet ignited. Berkowitz was seen on the morning of the fire putting some bundles in his auto-

mobile at his store. A shoe dropped out of one of the bundles. About noon of the same day he was seen putting in his automobile a large covered bundle which burst and a number of shoes fell out.

In view of this testimony the higher Court held Berkowitz guilty of the crime of arson, saying:

"There is evidence which the jury had the right to believe tending to show that defendant (Berkowitz) was secretly removing a portion of his stock of shoes from his store on the day of and shortly before the fire. This fact, in connection with the recent insuring of his property for $3,000, tended to show a motive for defendant to burn his property in order to collect the insurance. . . . The fire started in premises occupied and entirely controlled by defendant. It was under full headway when discovered. The odor of gasoline was then plainly noticeable and gasoline was found conveniently placed on the second floor, although it fortunately had not ignited."

Testimony Admitted at Preliminary Examination

Many city officials and Fire Marshals have authority to hold preliminary examinations of persons accused of committing the crime of arson. Therefore, it is important to know that examinations of this nature are not required by the law to be made with technical certainty.

For instance, in Hollingsworth, 289 Pac. 607, a person was accused of arson. It appeared that at about 3 a.m. on March 11, 1930, a dwelling house was totally destroyed by fire, that alarm of the fire had been given, but it was impossible to operate the fire engine. In the morning it was discovered that the engine had been put out of commission prior to the fire by some unknown person who had "pinched the gas line."

At the preliminary examination various testimony was introduced tending to prove that the accused may have committed the crime. The accused appealed to the Court contending that it was not proper that such apparent irrelevant testimony should be admitted. However, the Court upheld the officials in admitting the testimony, saying:

"A preliminary examination is not in any sense a trial but its only purpose is to ascertain whether a crime has been committed and whether there is probable cause for believing that the accused is guilty thereof and should be tried therefor. . . . In the reception of evidence the committing magistrate is not governed by the technical rules obtaining on a final trial. . . . We think it too technical to hold inadmissible upon a preliminary hearing evidence which is competent to prove a criminal conspiracy to commit the crime set forth in the complaint."

Incriminating Testimony

All states have enacted laws which make it unlawful for any person to compel a person accused of crime to answer incriminating questions. Therefore, convictions based upon such testimony are void. This is true although the testimony was given to a fire marshal or other fire department official.

For example, in State vs. Rixon, 231 N. W. 217, a dwelling burned. It was heavily insured, part of the insurance was payable to the owner and the balance to his sister to secure an alleged debt. Because of suspicious circumstances the Fire Marshal subpoenaed the owner and his sister as witnesses. Separate hearings were held at which they were sworn and persistently cross-examined by two deputies of the marshal. This testimony was taken by a competent stenograpic reporter, and transcribed. The transcripts so made were placed before the grand jury, which returned an indictment.

Suit was filed to quash, or invalidate, the indictment on the grounds that the accused were required by the Fire Marshal to answer incriminating questions. In declaring the indictment void, the Court stated the following important law:

"From these transcripts it clearly appears that it was not an investigation for the purpose of ascertaining whether the fire was set or not, or to discover who might possibly have set it, if not accidental. The whole examination was conducted by the deputies on the declared assumption that defendants were guilty thereof. . . . The Fire Marshal is permitted to furnish the prosecuting officer with a copy of the transcript of the testimony taken; but the statute does not provide that he give it to the grand jury as a basis for indicting the person who was accused of the arson and compelled by subpoena to give the testimony. . . . It is settled law in this state that, where a grand jury by subpoena compels the accused to attend and testify concerning his connection with the crime under investigation, an indictment returned by such jury against such accused will be quashed, because in violation of our constitutional guarantee that no person 'shall be compelled in any criminal case to be a witness against himself.'"

Admissions to Fire Marshal Aid Arson Conviction

On the other hand, it is important to observe the holding of a higher Court in the recent case of Rohlfs vs. State, 231 N. W. 266.

The facts of this case are that the owner of a farm had lost the same through foreclosure of a mortgage. He continued to live upon the farm, but his attempts to secure money with which to redeem the mortgage had failed. He made threats against the purchaser at the foreclosure sale, and told an acquaintance that he would set fire to the house on the farm by the use of such means that the fire would start after he had left home, so that he would not be suspected, and that he could then collect the insurance and redeem his land. Thereafter the house did burn a little time after he left the home. The property owner was called before a Deputy State Fire Marshal, put under oath, and questioned as to the fire, without being cautioned as to his constitutional right to refuse to answer. The jury convicted him of the crime of arson. He appealed to the higher Court asking for reversal of this verdict on the grounds that the Fire Marshal should have informed him of his right to refuse to answer incriminating questions. However, the higher Court upheld the conviction, saying:

"This fact furnishes no basis for a reversal of the judgment of conviction. The Fire Marshal was under no duty to advise the defendant (property owner) as to his constitutional rights. . . . The Court very fully and carefully instructed the jury as to their duty to scrutinize such admissions, and told them that they should be given no weight, unless the evidence showed that they were clearly made and correctly remembered and reported. The Court added that, if the proofs showed that such admissions were clearly made and correctly restated, they were 'entitled to the same weight and consideration as any other credible evidence in the case.' . . . Where the admission is deliberately made, and precisely identified, the evidence it affords is often of the most satisfactory nature."

Evidence of Prior Crime Is Not Admissible

The general rule is that the law will not consider evidence that a person has done a certain criminal act because he has done a similar act at another time. In other words, evidence that a person committed a crime at a particular time is not admissible to show that another crime was committed at another time, unless the two facts or occurrences are connected in some special way. This rule of the law is applicable in all cases involving trial of a person charged with a criminal act.

An example of this phase of the law is supplied by the recent case of Prymek vs. Herink, 289 Pac. 412. In this case it was shown that a person accused of arson confessed to burning a dance hall. Soon afterward a theatre building was burned and the same party was accused of this crime. However, the Court refused to admit testimony relating

(*Continued on page* 178)

Steps Taken in South Africa to Safeguard the Trees

Very wide fire lanes are arranged in South Africa when planting forests so as to furnish a fire break in case of a forest fire. The photograph shows nine-year old eucalyptus trees in Rhodesia, and the very wide fire lanes.

THE ROUND TABLE

For Practical Discussion of Current Fire Department and Fire Management Problems

EVEN though one is inclined to take pride in the fact that one has grown up, fundamentally the fear of punishment for doing something not justified, still exists. And on the other hand, there is considerable self-satisfaction in receiving recognition for work well done.

It is this fear of punishment and dismissal in the extreme cases that in a more or less degree simplifies the question of discipline in the Fire Department.

Technically the plan is known as the system of merits and demerits. An arbitrary scale is established by which one receives negative points for punishment and positive marks for a reward. These are added up at the end of stated intervals and the ratings are even used when considering a fireman's or officer's application for promotion.

Were it not for a system of this kind, insubordination and lack of respect for constituted authority would be common, and it would tend to degrade the workings of the department. Efficient fire fighting operations are directly dependent on good discipline.

The problem in full that is treated in this issue appears in the box on this page. In the box on the following page is reproduced a letter that should furnish the basis for a very interesting discussion for the problem is one that exists in all departments, and is particularly important where the men are subjected to long rides in intense cold. Should you care to add to the coming discussion write to the "Round Table Editor," FIRE ENGINEERING, 24 W. 40th Street, New York, N. Y.

HERE IS THE PROBLEM

What merit and demerit system do you follow in your department?

How are the men rewarded for good services performed?

How are the men punished for failure to comply with department regulations or for conduct unbecoming an officer?

Discussion of the Question

The greater percentage of fire chiefs have established a system of merits and demerits either to determine when a member of the department should be dismissed for the good of the service or else to use the marks as a grading scale when the question of promotion is considered. The replies follow:

D. E. Sox, Chief, Coral Gables, Fla.: Anyone violating the rules and regulations of this department will be given demerits as follows:

Anyone receiving 100 demerits within a period of six months will be discharged from this department.

Anyone not violating any rules or regulations and showing a special interest in the performance of his duty and the welfare of this department will be merited at the end of each six months. Anyone performing his duty in such a way as to be commended by the public will also be merited.

The number of demerits to be given for violating the rules follows:

Drinking intoxicating liquor while on duty	Dismissal
Violation of any criminal law	Dismissal
Any member or members organizing or joining in an organization, the purpose of which is to exercise influence to retain a man or men in a position from which they have been removed or discharged	Dismissal
	Demerits
Drinking intoxicating liquor while off duty	10 to 50
Conduct unbecoming a fireman	25 to 50
Immoral conduct	25 to 50
Neglect of duty	5 to 50
Wasting of any material or destruction of property through carelessness	5 to 25
Failure to report to the chief or officer in charge anything that might be detrimental to the department	10 to 50
Incapacity or inefficiency in the service	5 to 50
Sleeping on telephone duty	50 to 100
Disobedience of orders	5 to 50
Disorderly conduct	5 to 50
Leaving assignment or post without being properly relieved or instructed	5 to 50
Being absent without permission	5 to 50
Using coarse, profane or indecent language to a superior officer or to any member of the department	5 to 50
Insubordination or disrespect to a superior	10 to 50
Using disrespectful language to a citizen	5 to 50
Neglect to treat officers and members of the department and all other persons civilly and respectfully at all times	5 to 50
Interfering with any member of the department in the performance of his duty	10 to 50
Making a false official report	10 to 50
Neglect to appear clean and tidy at all times	5 to 25
Gossiping about members of the department, either concerning their personal character or conduct, to the detriment of such member	5 to 50
Publicly criticizing the official action of a superior officer	50
Giving out information concerning the Fire Department without the consent of the Chief of the Fire Department	25 to 50
Neglect to pay, within a reasonable time, a just debt incurred while in the service	25 to 50
Neglect to report any subordinate member of the Department, known to be guilty of violating any rule, regulation or order issued for the guidance of the Department	5 to 25
Engaging actively in local politics	50 to 100

For exceptional meritorious service beyond the usual requirements of fire duty, extra merits will be given subject to the discretion of the Chief of Fire.

Merits will be balanced against demerits and at the end of each six months period ending June 30th and December 31st, the record of each fireman will be started anew, except that the record for each period will be kept to apply against the entire fireman's service record. 100 net demerits incurred during any six months period will be sufficient grounds for dismissal. Promotion will be based:

(1) Service Record	50%
(2) Seniority	25%
(3) General fitness and ability	25%

Paul F. Dolan, Chief, Cedar Rapids, Iowa.: The merit and demerit system which we use is one of our own making.

All officers (except the Chief) and firemen, are subject to the application of the system. The Chief shall determine in all cases whether a member of his department shall receive merits or demerits for his services and conduct. The member is notified whenever merits or demerits are apportioned him. Merits are given whenever a member's services deserve honorable mention. Demerits are given whenever a department member's conduct or services warrant dishonorable mention. Merits are used to offset demerits.

There is little we can do, it seems to me, to reward men for good services performed. The majority of men are doing good every day by faithful service. The best reward, I believe, is to give them fair treatment and a salary such as his station of life commands. We make honorable mention whenever such occasion arises that is fitting to do so.

Failure to comply with department regulations or for conduct unbecoming an officer is punishable by suspension. Should any suspended member feel he has been discriminated against he has the right of appeal to the Civil Service Commission, and the decision of the Commission is in general abided by.

Lawrence E. Reif, Chief, New Haven, Conn.: When a Civil Service Examination is held the Board of Fire Commissioners consisting of the Mayor and five members give the man a rating based on the length of service and any notations or recommendations on his record card.

If the service was of an unusual occurrence in the discharge of his duty, it is noted on his record and conveyed to the members of the department in General Orders issued by the Chief.

Men who fail to comply with department regulations or if an officer's conduct is unbecoming, a hearing is given on charges preferred by the chief. The commissioners have the power to remove, reduce in rank or suspend without pay an officer or employee in its department, that it has the power to appoint. No removal, reduction in rank, or suspension shall be made for political reasons.

James M. Casey, Chief, Cambridge, Mass.: The demerit system in our department consists of sending out general orders to all the department members and they in turn are read at roll call by the officer in command.

Rewards for good services performed are mentioned in the general order, which as mentioned above is read at roll call, notifying the members of the department that the member or members named have been commended for their action.

Members are punished for failure to comply with the department regulations or for conduct unbecoming an officer according to the nature of the misdemeanor. If the violation is of a serious nature the member is relieved from duty with loss of pay. Charges are preferred against him and he is granted a hearing before a trial board. He may be represented by counsel, and if found guilty a general order is sent out to the department notifying all members of the department of the punishment ordered, which may be suspension from duty with loss of pay. On other instances he may receive mention in the general orders and warned that if he again violates the rules and regulations of the department he will be punished in a more severe manner.

If the violation is not serious the chief of the deparment may punish the member in such a manner as he may see fit, which may be a reprimand or a warning.

P. D. McCartin, Chief, Colorado Springs, Colo.: With reference to the merit system used in our department, the following has been followed out for quite a number of years and it has worked out very satisfactorily.

The men receive merits for good conduct, reporting to fires while off duty, etc. They receive demerits for failure to comply with regulations, reporting late to work, and for conduct unbecoming to the service. When a man has accumulated 55 demerits in excess of his merits, he is discharged from the service.

Peter Bonacuse, Chief Clerk, Bureau of Fire, Scranton, Pa.: We have a card system in our department showing merit and demerit consisting of promotions, demotions, suspensions, etc.

When a fireman fails to abide by the rules and regulations of the department he is subect to suspension without pay. The time is decided by the nature of the offense.

A. Howard, Chief, Ogdensburg: The Fire Department of this city has a two platoon system with 24-hour shifts. At 7 a.m. at the sound of a gong, men for both shifts line up for roll call and inspection, by the house foreman. If a man is absent without sufficient reason, he is brought before the higher officials of the department. If a man is absent too often he is retained for 24 hours longer without release from duty. If this is not sufficient punishment or if any of the rules of the department are violated they are held for a hearing of the Fire and Lights Committee of the Common Council for action. Regardless of the number of years of service in the department the man who has conducted himself according to the rules of the department and who has always performed his work in an efficient manner is given preference in the rating for promotion.

J. L. Kreuzberger, Chief, Saginaw, Mich.: In the event of an officer not complying with department regulations or conducting himself as an officer should, I would demote him to the ranks. If a fireman shows himself worthy of reward, and the opportunity presents itself, he is given the preference in advancing men to officership. Aside from giving a short lay-off to a few men for bad conduct, I have been fortunate enough not to have many cases for punishment. We do not have a lot of petty regulations for our department—just to merit or demerit the members. As I appoint my own officers and men, I have a minimum of trouble.

Fred J. Washburn, Chief, Auburn, N. Y.: Rules and regulations of our department provide that something must necessarily be left to the intelligence and discretion of individuals; and according to the degree in which they show themselves possessed of these qualities, and to their zeal, activity and judgment on all occasions, will be their claim to future promotion and reward.

If any members are found guilty of misdemeanor they are to be reprimanded, fined, suspended or dismissed from the department in accordance with the nature of the offsense by the City Manager.

W. C. Henry, Chief, Hugo, Okla.: I doubt very much the value of a merit or demerit system, and therefore do not employ same in my department. If I believe one of my men guilty of some offense I take him before the Mayor and council for reprimand. For some slight offense I speak to the man privately.

Men should be dismissed from service for breaking rules and conduct unbecoming to a fireman or officer—I have issued medals to two firemen for extraordinary service during a big fire. They were recommended and presented by me and the council paid for them.

F. C. Brown, Chief, Fairbury, Nebr.: We do not maintain a merit or demerit system. We always treat the members of our department as we want them to treat us—never asking any thing of them that we would not do ourselves.

When ever a man does not cooperate with the other members of the department he is discharged at once.

(*Continued on page* 177)

Read this letter—

To the Editor:

One of our drivers, answering a night alarm during a recent high wind, was badly cut across the face by a telephone wire which had blown down across the street. The fact that the wire broke was the only thing that saved him from a more severe injury, and possibly death. A shatter-proof windshield would have prevented this accident.

Some of the county fire departments make long runs of ten or more miles and on cold nights the men on front are in no condition to hook up when they arrive at the fire. Officers ride behind windshields and some in closed cars. They can see the road through a windshield. Why not the apparatus drivers?

Apparatus equipped with shatter-proof windshields would offer protection from cold and wires.

The California state law compels truck and bus owners to equip their trucks and busses with windshields. Why not the same requirements for fire apparatus?

W. C. F.

—it is the basis for the next Round Table discussion.

With the Editor

The Dangers of the Night Fire

Until the "millennium" in fire prevention arrives and the contents of residences as well as the buildings themselves are of fire resistant materials, the terror of the night fire in structures in which human beings are asleep will remain. The average individual suddenly aroused from a deep slumber is too bewildered to act quickly or even intelligently in order to save himself from extreme peril. Few have the animal-like quality of a "Tarzan-of-the-Apes" to be instantly awake at the slightest alarm when sound asleep.

Thus it is that the Chief and his men have an instinctive apprehension when an alarm of fire comes in from a residential district in the dead of night. For they do not know what strenuous and perilous duties may lie ahead of them when they dash into the darkness to reach their destination. If it is an apartment house, ten chances to one there may be dozens of half-wakened persons at the windows and ready at the slightest provocation to leap into space, without even awaiting the raising of the ladders for their rescue. If it is a private residence—generally of frame construction—some member of the family may be trapped in a room filled with smoke and necessitating a dash by the firemen into the murk and a groping in the darkness for the unconscious form on the floor.

The average residence, too, is so built as to be, with its open stairwell and flimsy draperies, a natural flue to accelerate the flames. This makes the rescue of the inmates doubly difficult, owing to the rapidity with which the flames spread in its interior. The quickest work in rescue in the circumstances is called for and the members of the Fire Department, when such an alarm rings in the station, are on their toes and ready for any emergency. The saving of life in such a fire is, of course, the first consideration. After that, the extinguishment of the blaze.

Laws and the Menace from the Air

Chiefs whose cities or villages are in the vicinity of Aviation Fields know best the hazard which careless and low flying by student aviators constitutes. Some bad fires have occurred from planes falling upon or colliding with residences or other structures, due to inexperienced or reckless operation of the planes.

In this connection it is interesting to note that the laws of the various states intended to regulate flying are in a very chaotic condition. This fact was brought out in a recent conference on aviation called by the United States Department of Commerce in the city of Washington. Some of the facts as to legislation in the various states, as emphasized at this conference, are startling. There are, it seems, aviation licensing statutes of a kind in forty-five states and territories, but apparently there is very little uniformity among them. For instance, in twenty-one states air craft and aviators are required to have federal licenses, while in twelve states only commercial flying is so licensed. Six states require either a federal or a state license and six insist upon a state license only. Several of the states have adopted the air commerce act, and others are moving toward the adoption of this act as a standard for their aviation statutes. No concerted move, however, seems to have been made to effect uniformity in state laws.

Of course it is to be expected, with the flying industry in its infancy, that a certain amount of confusion will be the result. But, with the automobile as an example, the state legislators and all interested in aviation should get together quickly and see to it that the dire confusion which characterized the early legislation on the motor vehicle, does not prevail in the case of air travel. Even at this late day, traffic and other regulations of the automobile are by no means as perfect as they should be. The time to commence with uniform aviation laws is now!

Effective Test of the Fire Drill

Much stress is laid in modern times on the teaching of the fire drill in schoods, colleges and large mercantile and manufacturing establishments. And rightly so. The drills are supposed to impart a steadiness to those frequently taking part in them, so that, in time of real danger, they will remain cool and not be subject to panic.

But the efficacy of this method of teaching has been attacked—as all methods, whether good, bad or indifferent are apt to be—and those opposed to the system argue that, in time of great stress and danger, the orderliness and coolness inculcated will surely be forgotten and panic will prevail.

The best method to prove the wisdom or fallacy of such a claim is to institute a test that will be real or will approach as near the real thing as it is possible for it to do. The plan of the fire drill has quite a number of times been subjected to a pretty severe test of this variety and has in nearly every instance, proved effective as a preventative of panic. A notable instance of this occurred recently in a New England public school. The scholars had previously been well instructed in the principles of the fire drill, and so, when the roof of the school structure caught fire and flames and smoke began to work downward into the schoolroom, the act of ring-

ing an alarm of fire was second nature to the school teacher.

Apparently, too, the obedience to the fire drill signal was also second nature with the scholars, for, at once, they arose and formed ranks to march out, in spite of the fact that flames had already appeared in the room, and it was rapidly filling with smoke. The exit was made quickly, but with perfect order and with no signs of pushing, or other indications of terror on the part of the children.

A better proof of the success of the fire drill in attaining the object for which it had been instituted could not have been discovered. Even a drill sprung suddenly upon the scholars would not have been half so effective, as here was grim reality staring them in the face and leaping flames near at hand that in only a few seconds threatened to envelop them. That they remained cool and did not lose their heads, proves the object of making the orderly exit from the school room a second nature in spite of all conditions had been attained. It was an unanswerable argument for the advantages of the school and factory fire drill.

Work of Portland Fire College Praised

The excellent work being accomplished by the Portland Fire College, Portland, Ore., was praised by C. F. Klinefelter, special agent of the Federal Board of Vocational Education, who visited the college to obtain information on the standardization of work in Fire Department training schools. He said:

"I was greatly impressed with the work being done here. The school here has gone at the fire fighting problem from a different angle than any other institution in the country and has advanced far."

Mr. Klinefelter addressed a meeting of the chiefs and fire captains and explained that the government last fall started its campaign for establishment of firemen's training schools to coordinate practices in schools in each city. Some of the methods followed in Portland will be described in a publication to be issued by the government and distributed to fire department and vocational training schools.

Educational Conference Held at the Portland Fire College

Left to Right, Chief Edward Grenfell, O. D. Adams, State Director of Vocational Education, C. F. Klinefelter, Special Agent of Department of Vocational Education, Assistant Chief J. Dillane, Battalion Chief William Heath and Battalion Chief Edward Boatright, Director of Fire College, Portland, Ore.

Woodstock, O., Has New Apparatus—A pumper has been delivered to Woodstock, Ohio.

Chief J. C. Moran 45 Years in Service

Chief John C. Moran of the Hartford, Conn., Fire Department completed forty-five years as a fire fighter on February 16 and the occasion was marked by transforming the Chief's office at Fire Headquarters into a veritable flower garden, when he arrived for his duties. Flower gifts were also sent to his home on South Marshall Street and members of the Hartford Fire Commission visited him during the day and congratulated him on his anniversary.

"The first 45 are the hardest—after that things go easier," was the only comment Chief Moran made while discussing the years that he has passed through as one of the most efficient firemen and department heads in the East. He is the oldest fireman in point of service in Hartford.

Chief John C. Moran

Chief Moran entered the Fire Department as a substitute on February 16, 1886 and rose steadily through the ranks, being made First Deputy Chief on May 1, 1912. He has been Chief of the Hartford Fire Department since November 1, 1913. Chief Moran is a member of the Connecticut State Firemen's Association, the International Association of Fire Chiefs and is on the Editorial Advisory Board of FIRE ENGINEERING.

THOMAS F. MAGNER.

Chief Brosnan Speaks in Macon, Ga.

Chief D. W. Brosnan, of Albany, Ga., Vice-President of the International Association of Fire Chiefs, was the main speaker at a luncheon meeting of the Rotary Club in Macon, Ga.

He stressed the importance of fire prevention and salvage work rather than fire fighting. He said that the time is rapidly coming when fire colleges will be established so that firemen may attend short courses and receive expert advice and experience in fire fighting.

Chief Brosnan explained, "I don't mean to give them a university course. A fireman doesn't need one, but he does need to know more about the business he has set about to do."

"Archie" Wallace of Freeport Dead

Archer B. Wallace, one of the best known volunteer firemen in New York state, and also known as a traveler, newspaper man and Secret Service man during the World War, died unexpectedly at his home in Freeport, L. I.

He was elected President of the State Association at Syracuse in 1919 and at the end of his term was elected a member of the Executive Committee. He was re-elected to that office at Nyack last year.

Mr. Wallace was born in Freeport in 1876. He attended Claverack College and Hudson River Institute from 1892 to 1895 and took a post-graduate course at Centenary Collegiate Institute. During his colorful life he was newspaper reporter, book publisher, saw service with the National Guard in Cuba, was a police justice of Freeport, justice and coroner of Nassau County, served as Chief of the Freeport Fire Department, and in charge of an alien enemy detention camp on Ellis Island for eighteen months of the World War.

He was a member of the Odd Fellows, B. P. O. Elks, the Masons, the Royal Arcanum, the Junior Order of United American Mechanics, the Foresters of America and the United Spanish War Veterans. Four children survive.

Eyota, Minn., to Buy Fire Apparatus—The Fire Department of Eyota, Minn., voted to buy apparatus for the protection of rural property.

Questions and Answers

NOTE—Readers are invited to send in questions, which will be answered in the order received. Names are omitted from questions unless otherwise specified

Discharge From Sprinkler Head

To the Editor:

Will you please answer the following question which was recently asked in a civil service examination:

What would be the discharge in pounds from a sprinkler fed by a 40 pounds pressure in the feed line?

What would be the number of gals. discharge from same? R. A. F.

Answer: The discharge from a sprinkler head is found by the following formula:

Discharge (in gals. per minute) equals ½ p+15, where "p" is the pressure in the pipe in pounds per square inch.

With a pressure of 40 lbs. in the pipe, discharge from the sprinkler head would be ½ of 40 + 15 or 35 gals. per minute.

The weight of this water is found by multiplying the discharge in gallons per minute by 8.35, the weight of 1 gallon of water. This gives us 292.25 pounds per minute.

Short Methods for Hydraulic Calculations

To the Editor:

Will you kindly send me some short methods for solving the following problems without the use of paper or pencil:

1. Effective reach of streams when the diameter of the nozzle and the nozzle pressure are known.
2. Gallons flowing per minute when the diameter of the nozzle and the nozzle pressure are known.
3. Solving for nozzle pressure when the engine pressure, nozzle diameter and length of line are known.
4. Solving for nozzle pressure when the effective reach and diameter of nozzle are known.
5. Solving for engine pressure when nozzle pressure, diameter of nozzle and length of line are known.

S. A. J.

Answer: There is no short, accurate methods for solving the various problems you state without the use of pencil and paper, although there are certain short cuts which are commonly used and which, in some cases, give satisfactory results.

The answers to the questions you give are as follows:

1. The effective reach of a stream is usually found by allowing one foot range for each pound pressure at the nozzle. If the nozzle pressure is 75 pounds, the effective reach of the stream is 75 feet, irrespective of the nozzle diameter.

2. There is no short method for determining the discharge from a nozzle; the rule commonly used is as follows: discharge in gallons per minute equals 30 x d x d x square root of P, where d is the nozzle diameter in inches, and P, the pressure in pounds per square inch at the nozzle.

3. In this case you would have to assume flow and you would have to know what the friction loss in the line for this practical flow is. For example, if the friction loss were 15 pounds per 100 feet then you could find the nozzle pressure by substracting from the engine pressure the friction loss in the line (which is the length of line in hundred feet x 15). A standard fire stream is considered as one which discharges 250 gallons per minute. For this flow the friction loss in 2½ inch hose is approximately 15 pounds per hundred feet. But where you have different nozzle diameters the flow, of course, will vary and the above friction loss per hundred feet will therefore not hold.

4. If the reach is known, you can secure the nozzle pressure by allowing one foot reach for each pound required at the nozzle. If the effective reach is 60 feet, then we may assume that 60 pounds at the nozzle will take care of this stream, with a little to spare.

5. This problem is solved similarly to number 3. Engine pressure is found by adding to the nozzle pressure the friction loss in the hose (where the line is laid along a level surface). When the friction loss per hundred feet of hose is known, then multiply the length of hose in hundreds of feet by the figure you have or the friction loss in 100 feet, and the product you secure, added to the nozzle pressure gives the engine pressure.

Pipe Lines for Fire Protection

To the Editor:

We have no hydrants in our town and no water system. We are surrounded by salt water on the shore part of the town and have installed draft hydrants at several places by running out pipe into the salt water, also some in fresh water, putting steamer couplings on the hydrants and drafting water through this pipe. We have two American-LaFrance pumpers, one 750-gallon pump and one model 99 500-gallon pump. I am very anxious to get your idea of several problems.

We have one pipe line 344 feet long, 200 feet of 6" and 144 ft of 5" pipe. We have tried this out with the 500-gallon pump, with an 8" lift; 100 ft. of 2½" hose having a 1" tip. We secured a fine stream of water at 50 lbs. pump pressure, but the minute we try to increase the pressure we get less water. In other words, if we pump 55 lbs. pump pressure we get less water than at 50 lbs. pressure. I think that the main is not big enough for the length. When we try to pump more than 50 lbs. pressure we cannot get water fast enough to supply the pump. Also, is there any way we can overcome this without changing the whole pipe layout? Could we insert in the line 25 or 50 feet of 10" pipe?

We have another line of 6" pipe 175 feet long which works perfectly and also several short lines. The commissioners are thinking of putting in another pipe at a different location of from 300 to 350 feet in length. What kind of pipe should be installed and also what size pipe should be used?

Answer: The trouble you have encountered in securing a satisfactory flow through the 344 ft. line of pipe made up of 6" and 5" diameter, is probably due to the presence of the 5" pipe in the line. When you are taking water from suction there is a very distinct limit to the distance you can draft water through small diameter pipe.

You mention that you secure less water at a higher engine pressure than at lower, specifically, less at 55 lbs. pressure at the engine than at 50 lbs. This is difficult to understand in view of the fact that with 55 lbs. at the engine you will secure a greater discharge than at 50 lbs., irrespective of the source of water supply.

The solution of the problem seems to be in replacing the 5" pipe with 6", and making sure that there is a slope from the source of water supply inland. In other words, the point at which the hydrant is attached to the line should be lower than the low water mark of the source of supply. This arrangement will keep the pipe full at all times, and will facilitate drafting water.

As a matter of fact, if there is a very distinct slope from the source of supply to the hydrant you should have no trouble whatsoever in getting satisfactory streams from a hydrant placed 344 ft. from the source of supply.

To insert 25 or 50 ft. of 10" pipe in the line would not

remedy the trouble, for the saving in friction loss would be almost negligible.

In the placement of the new line, which you plan, and which will be from 300 to 350 ft. in length, 6" pipe should answer the purpose, provided attention is given to slope of the line. Cast iron pipe would probably serve your purpose best, in view of the fact that you will have salt water to contend with.

A Small Air Hole is Best

In the Questions and Answers Department of our February 18 issue, Battalion Chief John Spencer of the New York Fire Department outlined a method he has employed successfully in preventing siphoning of soda and acid extinguishers. In this article he mentioned that a 1/16" hole drilled in the discharge pipe at the elbow, above the water line, worked satisfactorily. He has since informed us that even a smaller hole is better, for it retards the leakage of gas from the extinguisher, and thus prevents possibility of the stream in its later stages of discharge being broken up by admixture with the gas of the extinguisher.

Rochester Firemen Overcome By Gas

One hundred firemen of the Rochester, N. Y., Fire Department were overcome while fighting an otherwise ordinary fire in the celler of a clothing store caused by an oil heater.

Fire was discovered by a passerby at 8:30 p.m., and a box alarm sent in. When the first company arrived, the men believed that they were faced by just an ordinary cellar fire. When they tried to carry in a hose line, they were driven back by the heat and smoke. A hole was chopped in the front of the store beneath the show windows and cellar nozzles used. At that time it was not known that fuel oil was burning in the cellar. Firemen began to fall rapidly and it was believed that the trouble was caused by illuminating gas. The gas line was shut without any effect.

As the number of men overcome increased, a second alarm was turned in at 9:07, at 10:03 a special call was sent for two pumpers, and at 11:55, another call was sent for two additional pumpers.

All of the city's emergency first aid apparatus and four hospital ambulances were pressed into service. In some cases, nearly an entire company was swept out of service. at one time. Firemen were placed four in an ambulance and rushed to hospitals. Later emergency stations were opened in a fire station and in a nearby bank.

Three hours after the fire had started, there was no indication that the supply of carbon monoxide gas had abated. A hole was chopped through an adjoining store to ventilate the cellar, and this measure was successful in removing the deadly gas. Gas masks seemed to be of little or no use.

Once the cellar was ventilated, the fire was extinguished with very little trouble. All companies were ordered back at 3:08 a.m., or 6½ hours after the first alarm was sounded.

So seriously was the Fire Department crippled that Deputy Chief Maurice Keating issued a general order that firemen were to remain on duty twenty-four hours with time off only for meals. All orders for leave were cancelled. The following day Dr. C. V. C. Costello, Fire Department physician, gave orders to commanding officers of each fire house that all men who reported they did not feel well, were to be removed by ambulance at once to a hospital.

The actual fire damage has been estimated at less than $20,000. Because of the serious personal hazard, a sweeping investigation has been ordered to learn the cause of the fire.

Southwestern Chiefs to Meet in Dallas

The annual convention of the Southwestern Association of Fire Chiefs will be held in Dallas, Tex., on March 9-11. Full information concerning the convention may be obtained by writing to Chief J. E. Taplin, Blackwell, Okla., secretary of the association.

Two Stations Urged for Albuquerque, N. M.—Chief Fred Russell, of Albuquerque, N. M., has recommended that the city erect two new fire stations.

Chief Evans Wants More Stations—Chief John Evans, of New Orleans, La., has recommended in his annual report, the city erect seven new fire stations, purchase of additional equipment, and the installation of a high pressure water system for the high value and industrial areas.

The 9-9 Call Revives N. Y. History

New York Fire Department's fire telegraph assignment system is perhaps one of the most interesting in the annals of fire fighting in this country. When Acting Chief of Department John J. McElligott determined to call more help by resort to the 9-9 signal, for the Lincoln Arcade fire in New York recently, it was the first time in 26 years that the old signal had been used—the previous one having been sounded for a fire in the Adams Express Building at Broadway near Rector street.

Of course it has been quite common since then for commanding officers fighting fires in Brooklyn, Queens or Richmond which separate those communities of the city from old Manhattan Island to resort to the use of inter-borough signals to bring help across the bridges, but not in a quarter of a century did Manhattan have a fire which necessitated the use of an intra-borough signal and by that token McElligott has attracted fire department attention, for he demonstrated that he knew what he wanted when he wanted it.

All this revives history which should prove interesting to the fire-fighting world. On July 4, 1886, at 125th Street and 3rd Avenue, New York, fire started in some fireworks outside of a department store in Harlem. The flames spread to the department store and a fire chief named James McCabe finding the flames unchecked on all floors, sounded the 6-6-6 signal which in those days was the equivalent to the 9-9 of to-day. It brought him a third alarm assignment from a box four miles away. It was Independence Day and there were no fireworks restrictions then as there are to-day. Higher officials arrived and began to weed out fire companies as soon as they could be spared.

Chief McCabe was tried by a Board of Commissioners and was dismissed from the department for the alleged technical error of having stripped or undermanned a goodly portion of the fire fighting army of the city on such a celebrated day for fires. He resorted to the courts and the case went to the Court of Appeals at Albany. This tribunal reversed the lower courts and the Board of Commissioners and ordered McCabe's reinstatement.

The decision was accompanied by an opinion which in effect held that if Chief McCabe erred, he erred on the side of using his best judgment; that he had a potential conflagration on his hands; that the department store was aflame from top to bottom; that he was in supreme command at the time; that he performed his duty as he saw it; and, if he was wrong, he was wrong on the side of safety.

The writer can think of no instance where a commanding officer was censured or penalized for having called adequate assistance to a fire. On the contrary, there has been some criticism in the past for failure on the part of certain martinet commanders for attempting to "hold" fires on first alarm, with consequent hardship and danger to the firemen and to the property.

The McCabe case is so traditional that to-day, in a friendly game of cards in any New York fire engine house, a man holding three sixes is apt to say, "I have a Bucky McCabe." Chief McCabe was informally known as "Bucky;" why, no one knows.

WM. JEROME DALY.

Massachusetts Chiefs Hold Meeting

William A. L. Bazeley, State Commissioner of Conservation, was the speaker at the February meeting of the Fire Chiefs' Club of Massachusetts. Chief Selden R. Allen, of Brookline, presided. A committee was appointed to study the question of standardization of couplings used on small hose for forest fire work. This committee is composed of John S. Caldwell, of the New England Insurance Exchange; Ex-Chief John P. Crowe, of Westboro, Assistant State Forest Warden; Chief Edward F. Dahill, of New Bedford; Chief John W. O'Hearn, of Watertown; and John Parker, of Boston. Chief Timothy Driscoll, of Peterborough, N. H., and John F. Knight, Commissioner of Electric Lines and Streets, Somerville, Mass., were elected to membership in the club.

HARRY BELKNAP.

Booster Tanks Successful in LaPorte, Ind.—The Fire Department in La Porte, Ind., has done away with all large chemical tanks and have been successful in using booster tanks. The department has two platoons. This plan was followed even before the two-platoon system was made compulsory by a state law.

THREE-ALARM FIRE DAMAGES BOSTON GROCERY WAREHOUSE

Description of Three Other Three-Alarm Fires Fought by Boston Fire Department Early in February—Fire Losses Kept Low

By HARRY BELKNAP

IN a driving snowstorm, early on the morning of January 31 the Boston, Mass., Fire Department battled a three-alarm fire on the top floors of a six-story grocery warehouse at 35-37 Sleeper Street, South Boston. A still alarm was received at 5:29 a.m., followed by a bell alarm

Operating at a 3-Alarm Fire in a Boston Grocery Warehouse

from Congress and A Streets, at 5:29; a second alarm at 5:51 and a third alarm at 6:02.

The officers at the scene were Chief Henry A. Fox, Assistant Chief Henry J. Power, Acting Deputy Chief John F. Good, Acting District Chief Chittick, and District Chiefs Teehan and Coughlin. The companies responding were Engines 38, 39, 7, 15, 44 (fireboat), 25, 35, 6, 3, 43, 2, 31 (fireboat), 33, 13, 12, 32, 42, and 10; ladders 18, 8, 17, 20, and 19; Rescue Co. 1, Water Towers 3 and 2, two lighting plants, fuel wagon, and cars of the Boston Protective Department which latter organization spread over 200 rubber covers to prevent water damage to the lower floors of the building.

Hose lines were taken over aerial ladders, up stairways, and to the roofs of adjoining buildings. American-LaFrance pumpers were used as the fire was outside of the high pressure district. A water tower stream was used for a brief time. Post and Lowry hydrants were used, water pressure being fifty-five pounds. The department used 8350 feet of hose. The building was a brick structure owned by the Boston Wharf Company, Inc., and occupied by the Eldridge-Baker Company, wholesale grocers, and the Sleeper Storage Company. Damage was estimated at $75,000.

On February 2 three alarms were sounded for a fire caused by spontaneous ignition of coal at the Mystic Docks. The first alarm was sounded at 4:15 a.m., the second alarm at 4:38; and the third at 5:17. The blaze extended beneath the timbers of the wharf and was difficult to get at. It was necessary to chop many holes and to use a few cellar pipes. Chief Fox directed department operations, being assisted by Deputy Chief John J. Kelly, and District Chiefs Ward and Howard. The department used, 9,200 feet of horse. Damage was estimated at $10,000.

On February 6 damage estimated at $23,600 was caused by a three-alarm fire in the brick building at 969-985 Bennington Street, East Boston, occupied by bowling alleys, the Orient Gardens Theatre, dance halls, and offices, Box 6241, corner of Bennington and Saratoga Streets was sounded at 7:36 a.m., followed by a second alarm at 7:46 and a third alarm at 7:54. The officers at the fire were Chief Fox, Asst. Chief Power, Acting Deputy Chief Good, and District Chiefs Boutillier and McDonough. The department laid 7,050 feet of hose at this fire.

Another third-alarm occurred on February 8 in the Charlestown section of the city where flames burned out the 3-story Hoffman Building on Chelsea Street. The alarms were sounded from a box at the corner of Water and Gray Streets, at 3:42 a.m., 3:57, and 4:10. Chief Fox directed department operations, assisted by Deputy Chief Kelly and District Chiefs Ward and Howard.

Hose lines were taken over ladders and fire escapes and to the roof of a nearby building. A wagon gun stream was also used. The blaze originated in the cellar which was completely involved upon arrival of the department and the fire had extended to the upper floors through an elevator shaft. The department laid some 9,500 feet of fire hose at this fire.

Fire Endangers Atlanta Viaduct

Fire that started from an unknown source swept a five-story building in Atlanta, Ga., at the southwest corner of the Broad Street Viaduct and for a while threatened the entire business block. The building was occupied by the Sunlite Electric Bake Shop and two grocery stores. The upper floors were used as warehouses.

Flames were well under way before they were discovered. The first alarm was turned in at 9:54 a.m., and early in the afternoon there was still danger that the flames might spread to other basements. Several companies of firemen were kept busy throughout the afternoon cutting into storage rooms of the basement to ferret out persistent blazes. Sixteen fire companies were operating at this fire which started in the basement and worked its way up to the floors above. Twenty-one hose lines were used.

Spray from the hose lines froze on the sidewalk and endangered the safety of firemen. Assistant Chief O. J. Parker and a lieutenant received minor injuries from a broken store window. Traffic from the Union Station was delayed because of the hose lines laid across the tracks.

A bit of local history is attached to the spot where the bakery was located. The city owned the property from 1860 to 1892 and on it was located the Fire Department Headquarters.

Atlanta, Ga., Visited by Large Industrial Fire

A fire that broke out in the Richardson Building in the downtown section of Atlanta, Ga., for a time threatened to spread over the entire business section. The photograph shows flames and smoke issuing from some of the windows.

WHAT'S BURNING

THE following list includes fires of $25,000 loss and over in the United States and Canada, for the periods designated in the headings. These figures, compiled from telegraphic reports, are based on estimates made at the time, and are subject to later investigation and consequent revision. Taken as a whole, however, they give an approximately correct view of the losses incurred. The figures represent loss in thousands of dollars.

Week Ending February 20	Loss in Thousands of Dollars
HARRISBURG, PA.—Sachs Building destroyed	250
PHILADELPHIA, PA.—Tugboat of American Dredging Co.	65
KHEDINE, SASK.—Bolen Bros. store, adj. property	25
ST. PAUL, MINN.—Anthony Apartments destroyed	250
DENDRON, VA.—Business and residential property	40
GREENVILLE, N. C.—Two business bldgs. destroyed	65
SUPERIOR, WIS.—Averbook dept. store damaged	25
NEWFANE, N. Y.—Methodist Episcopal Church destroyed	40
BOSTON, MASS.—Property at 20-24 Newbury St. damaged	40
DELTA, IA.—R. R. Seiman mill and elevator destroyed	25
PRESTON, IA.—F. S. King general store destroyed	60
GRAND RAPIDS, MICH.—Apt. bldg. of Rottschafer Realty Co.	40
DOVER, N. C.—Property of Goldsboro Lumber Co.	40
HAMILTON, ONT.—Premises of Lyon's Tailoring Co.	25
POWHATTAN, VA.—Powhattan Agricultural High School destroyed	40
PEORIA, ILL.—Hub Clothing store, adj. property	35
WARSAW, IND.—Bldg. occupied by McKown Automobile Agency	40
RUMFORD, ME.—Strathglass block destroyed	125
PITTSBURG, PA.—Property of Kaufman estate, Smithfield St.	25
HENNING, MISS.—Several business establishments	40
DWIGHT, N. C.—Post office and adj. store	30
ENGLEWOOD, N. J.—Ferncliff Lodge of Chas. Connolly	40
OAKLAND, CALIF.—Learner & Rosenthal plant destroyed	200
SACRAMENTO, CALIF.—Wholesale grocery of Mebius & Drescher	125
PHILADELPHIA, PA.—Traymore Hall, Franklin St., destroyed	75
ELMORE, OREG.—Whse. of Columbia River Packers	25
NEWTON, N. J.—Presbyterian Chapel destroyed	50
SAN JOSE, CALIF.—Plant of Purity Baking Co.	40
NEWARK, N. J.—Hart Dyeing Co. plant destroyed	125
CINCINNATI, OHIO—H. B. Smith Paper Box Co. plant	40
FERGUS FALLS, MINN.—Business property of P. J. McGoldrick	125
STIRLING, ONT.—Store of Ross Coulter destroyed	25
CLARKSBURG, W. VA.—Northview Junior High School	40
SPRINGFIELD, MASS.—Hope Congregational Church destroyed	150
CHIPMAN, ALTA.—Business section damaged	50
THORNBURY, ONT.—Whse. of Georgian Bay Fruit Growers, Ltd.	25
PITTSBURGH, PA.—Plant of National Lead & Oil Co.	35
BALLSTON SPA, N. Y.—Farm property of Lucy Bateman	25
CAMBRIDGE, MD.—Country home of W. E. Tobias damaged	25
BIRMINGHAM, ALA.—Bldg. occupied by Butcher Hdw. Co.	25
SHREVEPORT, LA.—Plant of Kaddo Kane Mills destroyed	30
JACKSON, TENN.—Lyric Theatre damaged	25
CHARLOTTE, N. C.—Imperial Theatre destroyed	80
NORTH SYDNEY, N. S.—Several business establishments	25
SCRANTON, PA.—Store of Goldman Clothing Co.	35
HIGH POINT, N. C.—Nat'l Guard Armory, adj. property	400
CHICO, CALIF.—Presbyterian Church destroyed	50
BIRCH TREE, MO.—Business property owned by C. D. Hooberry	35
WHITEFISH BAY, WIS.—Home of W. T. Graham destroyed	45
SALEMBURG, N. C.—Butler's drug store, ad. bldgs.	40
DAYTON, OHIO—Moraine Country Club destroyed	50
NEW BRITAIN, CONN.—Woolworth store, adj. structures	125
NORTHAMPTON, MASS.—Draper Hotel, adj. property	25
PERTH AMBOY, N. J.—Bldg. of Perth Amboy Used Car Co.	80
BUFFALO, N. Y.—Business property at 331 Main St.	50
FAIRMONT, MINN.—Shraiberg store destroyed	35
BELLEVUE, DEL.—Home of Richard Sellers, River Rd.	150
WARSAW, IND.—Chinworth & Orram Hardward bldg.	45
CLINTON, N. C.—Residential property, DeVane St.	25
Week Ending February 27	
JEFFERSON CITY, MO.—Madison Hotel damaged	40
CHARLESTON, ILL.—Charleston Hotel, adj. property	80
PHILADELPHIA, PA.—Factory occupied by Schneider Bros.	45
READING, PA.—Shop of M. J. Buckley	25
FARRADAY, KY.—Store of Elkhorn Colliers Co.	35
BOULDER, COLO.—Boulder Co-operative Granary destroyed	45
CINCINNATI, OHIO—Laboratory at University of Cincinnati	40
HERMANSVILLE, MICH.—Property of Hiawatha Fox Farm	60
LINCOLN, NEBR.—Burlington block damaged	25
SAVANNAH, GA.—Plant of Smith Lumber Co., 5 mi. west	125
IOTA, LA.—Rice mill of J. A. Sabatier destroyed	150
CHICAGO, ILL.—Property at 1008 N. Dearborn St.	25
ATLANTA, GA.—Auditorium of Emory University	50
WINSTON-SALEM, N. C.—Congregational Church destroyed	25
LOGAN, UTAH—Commercial block, West Center St.	40
LISBON, N. H.—Factory of Lisbon Products Co.	25
LEWISBURG, OHIO—Grain elevator of Clyde Pontius	25
BURNABY, B. C.—Premises of Endot Stock Co., Ltd.	25
MARSHALLTON, DEL.—Plant of Kiamensi Woolen Co.	40
OSMOND, NEB.—Farm home of Adolph Kudera destroyed	25
PROVIDENCE, R. I.—Rhode Island State Pier No. 1 destroyed	125
LOUISVILLE, KY.—Whse. of Mutual Service Co. destroyed	40
BRISTOW, OKLA.—Home of Lula Ragsdale destroyed	30
OTTAWA, ONT.—Ritt's clothing store, Rideau St.	40
FORT MITCHELL, KY.—Dwelling and apartment property	25
PACIFIC BEACH, WASH.—Twelve business bldgs. destroyed	50
BRONX, NEW YORK CITY—Uncompleted apt. at 2,179-83 Wallace Ave.	200

Chief Espey of Elmira, N. Y., Wants More Men—Chief John H. Espey of Elmira, N. Y., in a communication addressed to the Mayor said that it is imperative that ten men be added to the department although twenty more men could be used. Following an inspection two years ago by the National Board of Fire Underwriters, a recommendation was made by the Board that an additional pumper and twelve men be provided.

TO PROTECT FIREMEN IN CALLS OUT OF TOWN IN N. Y. STATE

Westchester Chiefs' Plan to Push Legislation on This Subject — Bills to be Introduced in Legislatures — February Meeting of Plan

THE protection of volunteer firemen when on out-of-town calls was the main subject discussed at the February meeting of the Fire Chiefs' Emergency Plan of Westchester County, N. Y. This meeting was held at Fire Headquarters, East Chester Township Fire Department, Tuckahoe, N. Y., at 8 p. m. on Tuesday, February 17, with President H. E. McTavey, Mt. Kisco, in the chair. The principal speaker was Attorney Sneller, who spoke interestingly on the necessary ordinances for the protection of volunteers and the covering of damage to apparatus when answering calls to out-of-town fires. At the conclusion of the address there was some discussion on the proper procedure to pursue to secure the needed legislation, and a motion was finally made by Secretary Riviere, seconded by Chief Mulcahey, that a bill be drafted and presented to the New York State Legislature with the assistance of Assemblyman Ralph Gamble, of Larchmont, and Mr. Sneller. This was unanimously carried.

A vote of thanks was tendered to Judge Hoop, of Bronxville, for having arranged for the presence of Attorney Sneller at the meeting.

Chief Griffen, of White Plains, then introduced J. H. Sowerby, who gave a talk on first aid to the injured and illustrated it with demonstrations of resuscitation and other methods of first aid. The speaker offered to give courses on the application of first aid to any Fire Department desiring it, under the auspices of the Red Cross, which he represented.

It was decided to accept the invitation of Chief James Sullivan and hold the next meeting of the Plan at Greenwich, Conn., on Wednesday, March 18.

At the conclusion of the meeting, Commissioner Murray, Chief Steuhl and Captain Kerrigan furnished the members and guests with an excellent dinner, served in the headquarters.

Among those present were the following:

Frank H. Sloat, Peekskill
Hugh Brady, Peekskill
James A. Sloat, Peekskill
Charles H. Perschke, Mamaroneck
Ex-Chief P. J. Lemon, Mamaroneck
Chief J. J. Mulcahey, Yonkers
Judge Hoop, Tuckahoe
Chief R. H. Limekiller, Hastings
Chief S. J. Dawson, Dobbs Ferry
Asst. Chief J. A. Ochs, Dobbs Ferry
R. Goettel, E. Port Chester
Harry W. Walsh, E. Port Chester
Chief D. W. Travis, Jr., Peekskill
W. Kessler, Peekskill
John Brennan, Peekskill
William Cothren, Peekskill
S. K. Ferguson, of J. N. Hedberg, N. Y.
Comr. H. Bennett Harrison
Chief Joseph T. Brunner, Harrison
C. M. Nesbett, Larchmont
Capt. Richard Olson, Peekskill
R. L. Haring, Peekskill
Chief John Gibson, Mt. Vernon
A. Bell, Port Chester
John Yaeger, Elmsford
C. Barth, Elmsford
H. J. Seagrave, New York
F. G. Merkle, Mt. Vernon
J. E. McDonald, Mt. Vernon
James Berg, Mt. Vernon
Fred N. Lounsbury, Port Chester
E. M. Jensen, Port Chester
M. J. Signer, Peekskill
F. E. Brown, Peekskill
S. C. Denicke, Peekskill
Chief J. J. Brennan, Pelham Manor
Chief William Carson, No. Pelham
W. McNulty, Pelham
S. E. Ryan, Pelham
Chief Fred Langeloh, Rye
W. F. Hayes, Jr., Mt. Vernon
C. Matehes, Briarcliff Manor
R. Coughty, Briarcliff Manor
Chief Victor H. Veit, Stamford, Conn.
Chief James N. Sullivan, Greenwich, Conn.
Benj. Shea, Port Chester
J. A. McCullough, Port Chester
M. Surabet, Peekskill
W. F. Ryan, Yonkers
Comr. Guy A. Stewart, Jr., East Chester
James Manning, Peekskill
Capt. Walter M. Dawkins
Comr. P. J. Murray, East Chester
Chief Arthur Steuhl, East Chester
A. A. Comstock, East Chester

Special Foam Apparatus for New York

The Standard Oil Company of New York has placed at the disposal of the New York Fire Department, at any time, day or night, on telephone call, a five-ton Mack truck, painted scarlet red and equipped with 7,000 pounds of dry powder for fire foam and three generators capable of handling 800 gallons of solution per minute or the equivalent of 6,400 gallons of foam per minute.

The truck is stationed at the Sone & Fleming plant in the heart of the oil district of Greenpoint. It has 250 feet of 2½ inch hose. This is the first all-foam apparatus in the service of the New York Fire Department. Smaller foam equipments are carried on the fireboats, the rescue companies and a specially built truck company in Harlem.

WM. JEROME DALY.

Orleans, Mass., Buys Apparatus—Orleans, Mass., has ordered Maxim fire apparatus.

Speeding the Department on Its Way

(*Continued from page* 162)

directed to a nearby garage where he may park his car at no charge whatsoever. When the owner desires his car, the doorman at the store telephones to the garage and the car is at the door in a few moments.

Parked automobiles in front of stores have also been a source of annoyance. Store lessees claim that parked cars prevent the approach of prospective customers, while the city is only interested enough to see that cars are not parked too long on the main thoroughfares and the Fire Department is anxious to see that the traffic lane is not materially reduced in width.

Roger W. Babson, nationally known economist, said:

"Residents and business folk have inherent property right to exclude strangers from obstructing their abutting curb and even to charge a fee to those whom they choose to allow to park their cars at said curb."

But what should be done with the cars. They have to park somewhere.

In many of the larger cities there are what are facetiously termed automobile hotels. Actually they are multi-story garages where the cars may be parked at a charge of from fifty to seventy-five cents a car. It is surprising to note the number of automobiles that may be housed in a building of this kind, and of course every car so parked frees the street from a possible hazard.

Some of the problems that face officials in New York City, exist also in other cities.

Traffic Conditions in Other Cities

A comparative traffic study was made by the New York Board of Trade to learn of conditions in other cities. Briefly, the information gained follows:

Boston, Mass.—The whole business area is fearfully congested and the problem is aggravated by narrow winding streets and street cars. Restricted parking has been attempted and as a result, the parking condition problem has been accentuated in nearby residential zones.

Chicago, Ill.—Parking in the Loop District has been entirely prohibited. In May, 1928, there were 14,000 garage and open-air parking spaces. There is increasing need for combination garage and office buildings. It was pointed out that such a combination is as necessary as elevators in tall buildings.

Detroit, Mich.—The city is troubled by the usual parking problem despite wide streets. One hour parking is allowed at stipulated periods. "For Sale" cars can not be parked on any street.

Newark, N. J.—There is bad congestion. The business area is zoned for parking—there is one side parking on one-way streets. Parking on the main thoroughfares is forbidden between 7:30 and 9 a.m., and 4:30 and 6 p.m., with exceptions made for tended cars. Commercial vehicles may load and unload but can not park. There are three large garages in the business area. The largest one has a discount arrangement with department stores. L. Bamburger & Co., department store, has a customer's parking station and bus service is provided from this point to the store.

New Orleans, La.—There is both a congestion and fire hazard. The business area has four large 4-6 story garages and there are many outdoor parking spaces where a twenty-five-cent charge is made.

Pittsburgh, Pa.—There is congestion of traffic and a fire hazard. The city allows one half hour and unlimited parking according to the street width and traffic conditions. There is unlimited parking before 10 a.m. Parking garages are not popular because of the laxity of parking rules. The survey showed only 2.8% store parkers were customers.

St. Louis, Mo.—There is a growing congestion condition. No parking is permitted on business streets before 9:30 a.m. and after 4 p.m.

Seattle, Wash.—Congestion exists in the down town area. The city has one half hour parking. Open spaces and building basements are used for all day car storage.

Suggestions for New York City

The Sub-Committee on Parking and Taxicab Cruising of the Committee of Vehicular Transportation issued a report December 12, 1928, on conditions in New York City. It stated:

"New York City is the worst congested traffic center in the world. The least effort is made here to remedy the situation by modern regulations and dennite enforcement. New York City attacks its traffic problem mechanically, piecemeal and mostly in answer to specific complaints. The situation has gotten out of hand and bad habits have been allowed to grow which are each succeeding day more difficult to correct and abate."

The report presented the following suggestions:

Loading spaces for trucks and passenger cars at all buildiggs and no parking should be allowed in the loading space.

Parking should be allowed day or night, only on one side of one way streets.

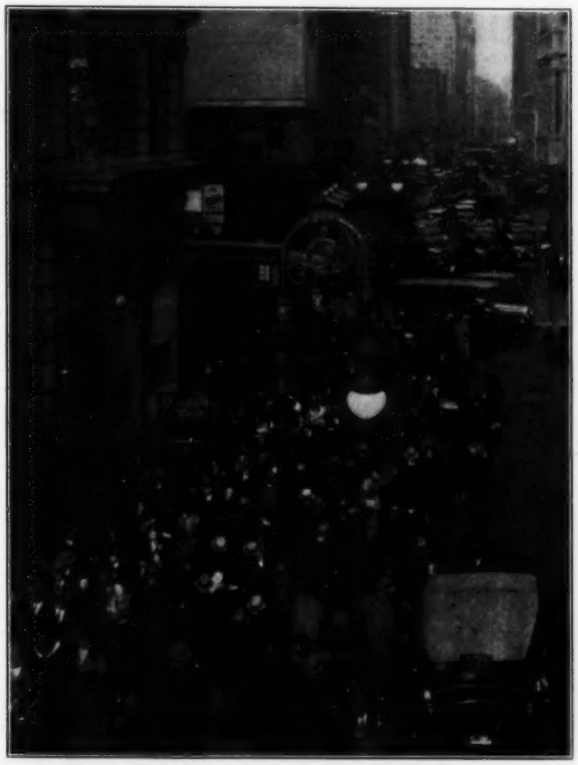
There should be no parking at all times five feet either side of hydrants.

There should be no double line or "For Sale" parking.

Any car parked six hours should be towed away as abandoned and impounded, redeemable by fine and service charge. Also, any car parked and so braked and locked as to be immovable by manual power, should be impounded and the owner fined.

At diagonal and wide streets, centerline parking should be allowed for one hour. Such parking is considered of value as it helps divide the moving traffic into traffic lanes.

There should be a distinct mobile inspection squad to tour constantly for checking conditions, to serve summonses on violators and to generally enforce parking laws.



New York's Most Congested Shopping Corner

A view of Broadway and 34th street during the Christmas shopping rush. The crowd has overflowed into the street and there is no regard for the traffic lights as the shoppers rush by to economize on time. A fire station is located on an adjoining side street and has to contend with crowds frequently as large as this.

There appears to be no single rule that will unlock the mysteries of traffic.

A more optimistic note is sounded by Prof. Miller McClintock of the Harvard Erskine Bureau, a noted traffic authority. He said:

"Twenty years from now photographs of blocked business streets will seem as ridiculous to our successors as pictures of streets lined with hitching posts and carriages now seem to us."

But such a paradise is predicted for the future. In the meanwhile fire departments all over the country are faced with conditions brought about by traffic conditions that must be met at the present time.

In the New York Fire Department drivers are instructed to slow down when approaching street intersections. Regardless of speed, the drivers must slow down at the crossings. Automatically this makes the driver watch out for

cross bound cars. This measure has materially cut down the number of apparatus accidents. The importance of the requirement is best illustrated by a serious accident that has been reported.

The first company due at the fire was held up by some unstated cause. The second due company was speeding down the avenue and the driver believed he had a clear road as the other company had long previously swung into the avenue from the side street. But due to the delay, both companies reached the street intersection at the same time and there was a crash. If the driver had slowed down at street intersections, it would have been almost second nature to glance down the cross street, and the crash would have been avoided. At least, due to the decreased speed, the impact would not have been as great.

Most of the accidents are caused by motorists anxious to "beat" the traffic light. At the moment that the traffic policeman blows his whistle, this offender attempts to be the last car over before crossbound traffic starts moving. The reasoning of such a person is incomprehensible for even should he succeed in being the last one by, he will be halted at the next corner.

But when apparatus approaches a corner where the light has just changed, the operator rightfully figures that traffic on both sides of the street to be crossed has been halted. However, all such reasoning is upset by the unthinking motorist who delights in dashing across to "beat" the light. Many serious accidents result. Often the apparatus driver finds that the line of least resistance is to leap over the curb, endangering many law-abiding pedestrians.

Shall the Department Obey Signals?

Returning from a fire, the company must obey traffic signals. It has been pointed out that such a practice breaks down the morale of the men and gives the motorist a false line of reasoning. When he sees Fire Department apparatus halted by a red light he begins to believe that the Fire Department has not as much right on the road as it assumes. Therefore, if he is of a speculative nature, he might possibly take chances when next he is halted by fire apparatus, that normally he would have frowned upon.

But even though a large number of Fire Department accidents are caused by traffic conditions, parked automobiles, unthinking motorists and pedestrians, many crashes can be laid on the doorstep of the Fire Department. Speed! The desire to reach a certain spot in the least possible time even at the sacrifice of the safety factor.

In the days when dressmakers purchased enough material for a lady's dress as interior decorators now buy for draperies and hangings, the good citizens of the day took particular pride in the shiny steamer drawn by three speedy horses. The clatter of twelve steel-shod hoofs on the stone pavement warned of the approach of apparatus, and a speed of ten miles, or even twelve miles an hour was considered satisfactory. Today, given a clear lane, there is a great temptation to open the throttle and send the apparatus down the avenue at a speed of forty miles an hour. The men fail to realize that there is little gained in time by stepping up from a safe speed of twenty to twenty-five miles an hour, to some rate that was never meant for city streets. The factor of safety must never be sacrificed.

While it is hoped that a better understanding of traffic problems may result as it relates to Fire Department operation, it is impossible to present a definite concrete plan that will solve conditions. Even trained investigators conclude their report with the statement, "There is no general solution."

But a study of the local problems, and any action that will result in clearer traffic lanes will also result in better Fire Department response.

Eastern Chiefs Select Atlantic City

The Eastern Association of Fire Chiefs will hold its annual convention in Atlantic City, N. J. with an all day session on Friday, June 19 and a morning session on Saturday. This was decided at a meetitng of the Board of Directors held in Philadelphia on February 18. Convention headquarters will be at the Madison Hotel.

Chief Callahan Urges Need of State Marshal—Chief J. J. Callahan of Fort Dodge, Ia., President of the Iowa Fire Chiefs' Association, took issue with Governor Hammill's recommendation that the office of State Fire Marshal be abolished. Chief Callahan said that such a move would open the door to fire bugs of all types whose only fear at present is investigation and prosecution by the marshal or his deputies.

P. Hildreth Parker Promoted

P. Hildreth Parker, President of the Box 52 Association, Inc., of Boston, Mass., has been appointed Fire Prevention Inspector of building equipment and new construction for the New England Telephone and Telegraph Company. He has been with this company for twenty-one years and his new position comes as a well merited promotion. He is now engaged in making a survey of conditions in the New England States relative to fire protection. Mr. Parker makes his home at 81 Benjamin Road, Belmont, and is a member of the International Association of Fire Chiefs, Rhode Island Fire Chiefs' Club, Fire Chiefs' Club of Massachusetts, Middlesex County Forest Wardens' Association, National Fire Protection Association, 459 Club of New York, and of the Fire Prevention Committee of the Boston Chamber of Commerce. He is a registrar of the New England Association of Fire Chiefs.

P. Hildreth Parker

Mr. Parker is very well known to fire chiefs throughout the New England states and to others who have attended the conventions of the New England Associations of Fire Chiefs.

HARRY BELKNAP.

Frank V. Wilson With Ward LaFrance

The appointment of Frank V. Wilson as district sales manager of eastern and northern New York for the Ward LaFrance Truck Corporation has been announced by A. Ward LaFrance, President.

Mr. Wilson's office will be at Kinderhook, N. Y., with a branch at Albany.

Ohio Chiefs to Meet in Akron

The fourteenth annual convention of the Fire Chiefs Association of Ohio will be held in Akron, June 9-12. The Mayflower Hotel has been designated as the convention headquarters and exhibits will be held in Goodyear Hall.

Chief John A. Grogg of Tiffin, President, has appointed Chief Joseph S. Speddy, Lakewood, Chairman of the Exhibit Committee. Others on this committee are Chief D. K. Moser of Warren and Chief T. J. McFarland of Marion.

Chief McFarland has also been selected Chairman of the Program Committee. He will be assisted by Howard J. Manning of the Ohio Inspection Bureau, Chief Robert Leedom of Portsmouth and State Fire Marshal Frank G. Henry.

The Local Committee consists of Edward Foran, Akron, Chairman, Chief William F. Woehler, Akron and Mr. Stevens, Secretary of the Akron Chamber of Commerce.

Arrangements are also being made for the first annual meeting of the Northeastern Ohio Volunteer Firemen's Association to be held on Exhibitors' Day, June 10. It is the intention of the association to meet with the volunteer chiefs on this day.

Oroville, Cal., to Erect Fire House—Oroville, Cal., is considering the erection of a new fire station.

St. Paul Conducts Fire School—Two or three fire school classes are being held in St. Paul, Minn., under the supervision of Chief Owen C. Dunn with Ernest Lee serving as Chief Instructor. Instruction is to be given in extinguishing fires, fire prevention, spotting fire hazards, precautions against fumes and acids and first aid.

Chief McCarthy Urges Worcester Improvements—Chief Charles L. McCarthy, of Worcester, Mass., has put in requests for two 750-gallon pumpers, two hose cars, one city service ladder truck, one 85-foot aerial ladder, two more fire stations and $5,500 for improvements to the fire alarm system.

The Round Table

(*Continued from page* 168)

We only want and keep men who like their work and are willing to do their part in harmony with their officers and fellow-workers.

C. P. Loller, Chief, Hamden, Conn.: Our fire department consists of eight companies and all of our men are volunteers excepting the drivers of the fire apparatus.

Each driver is picked from his respective company. About the only punishment we inflict is to transfer the drivers from one district to another which seems to work out very well.

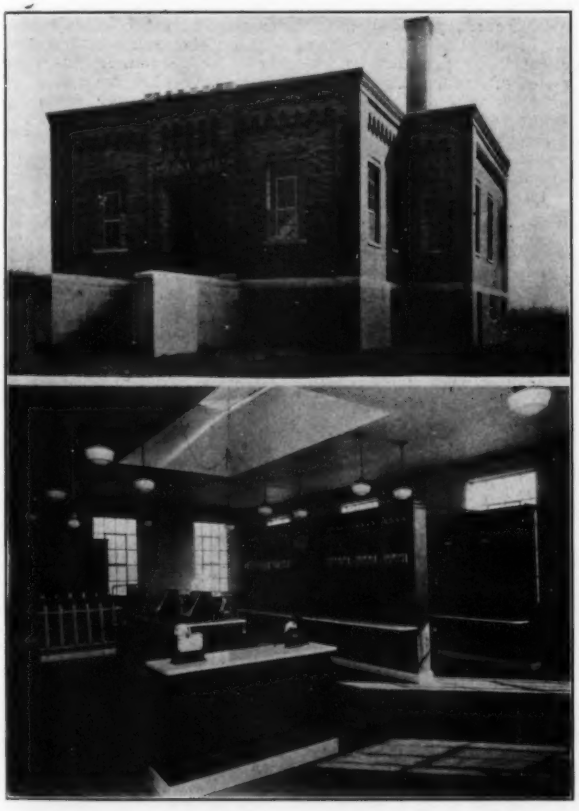
W. H. Moffelt, Secty., Rushville, Ind.: The merit system is unknown in this department. Occasionally the city council or citizens reward men for their good service by donating extra pay.

Wm. J. Lutz, Chief, Wilmington, Del.: Merit marks are given to officers or members for outstanding service performed upon recommendation of the Chief Engineer. Letters are awarded and service cards are marked both for merits and demerits if same be ordered.

No rewards are given except letters of commendation and service card record for future reference.

Officers of the Bureau of Fire are usually given reprimand for first offense and fines for the second offense. The commanding officer is usually fined 50% more than firemen, as the responsibility rests on the officer in charge.

A. E. Moran, Chief, Derby, Conn.: We have a volunteer Fire Department here, which consists of three companies. If a driver of the truck, or any one of the members are found on the truck, when answering an alarm, under the influence of drink they are suspended for an indefinite period. The reason I mention intoxication is because I believe that is the chief trouble in any Fire Department. I also think that there is more trouble to overcome in a volunteer department insofar as each company has its own set of laws and bylaws. The only reward the men receive for their good service is the saving of the sum of two dollars, that they would otherwise have to pay for personal tax if they were not members of the department. If a fireman does not comply with the department regulations, he is brought before the captain of his company in the presence of all the other members of said company and charges preferred against him by the Captain. The captain in turn leaves the final decision entirely to the men. If any officers of the companies or engineers, have charges preferred against them the fire commissioner and the fire board handle these charges.



Central Fire Alarm Office Opened in Nashville, Tenn.

A new headquarters building for the fire alarm system has been completed in Nashville, Tenn. The upper photograph shows the exterior of the building and the lower, the operating room. The following Gamewell equipment was installed: Four 4-circuit main line relay boards, one 5-circuit primary alarm board, one 5-circuit secondary alarm board, one 30-circuit protector and line terminal board, three 10-circuit storage battery switchboards, one 72-circuit terminal and cross connecting board; one operator's unit consisting of a 4-circuit Nonpareil register, one Excelsior time stamp, one Nonpareil take-up reel, two Peerless transmitters, two master telegraph keys, two 5-circuit multiple relays, one box list frame; one recording unit, a motor generator set and 740 cells FIP batteries.

W. A. Buel, Chief, Parsons, Kan.: We award gold badges to the firemen making the best grade in classes and in drills. The fireman receiving such a badge wears it until some other fireman makes a better grade. These badges are awarded in November of each year to the fireman making the best record. He is also given credit on his personal record in the record journal.

If a man violates the rules he is fined, suspended, or discharged in accordance with the nature of the charge. All fines are added to the pension fund.

R. A. Kelley, Chief, Davenport, Iowa.: The captain keeps a monthly record of the conduct and duties of the members of his company, classified as follows:

Fire Duty	35%
Station Duties	25%
Application and interest in work	15%
Alertness	10%
Appearance and care of uniform	10%
General Character	10%

When taking examinations for higher positions, members get their rating and also any record performance in line of duty from their commanding officer. This is in accordance with our rules and regulations.

The Chief may give any officer or fireman who fails to comply with department regulations or for conduct unbecoming to a member of fire service any sentence that he sees fit, with consent of Board of Police and Fire Commissioners.

James L. McLane, Chief, Charleston, W. Va.: In our department we consider a man's merits and demerits when promoting him. We do not hold any examinations for promotions only his past record is taken into consideration.

For conduct unbecoming an officer, he might be demoted, taking into consideration of course, his past record. Firemen breaking rules are given sentences of suspension for periods of 15 to 30 days without pay depending upon the nature of the misdemeanor. If the charge is a severe one the member so charged may be dismissed without a hearing. The chief awards merits and demerits.

D. F. Donovan, Chief, Kansas City, Mo.: Our system in this department consists principally of promotion for commendable services and demotion for offenses.

We sentence members violating the rules or regulations of our department by suspension, fine or discharge depending upon the charge.

John J. Gilday, Chief, Hoboken, N. J.: For delinquency members of our department are fined, demoted or dismissed in accordance with the kind of charge made against him.

We reward good services by mention in the Roll of Honor and sometimes by advancement.

* * *

ANSWERS TO PREVIOUS QUESTION

The following replies are in answer to a question on whether it would be better for the safety of the firemen to demand that the officer beside the driver be capable of handling the fire apparatus, in case the driver becomes ill while driving.

G. H. Neff, Chief, Grafton, Ill.: A department officer riding either the front seat beside the driver or elsewhere on the truck, should certainly be familiar with, and able to handle and drive his truck in an emergency; however I do not think his inability to do so would have any

decided influence on the safety of the other men riding the truck.

If the regular driver becomes so suddenly and seriously ill that he is unable to bring his equipment to a safe and normal stop, then surely another driver on the seat with him would be unable to take his place behind the wheel quickly enough to avert an accident. It is safe to say that the best possible thing to do is to employ as drivers only such men as are in good physical condition and in whom other men riding on the apparatus have confidence.

Robert C. Howe, Chief, Fort Bragg, Cal.: I believe the safest and best plan is to have two men on the front seat of the apparatus who are drivers and familiar with the apparatus in order to be able to take the wheel in case the man driving should faint or have a heart attack or even a mild epileptic seizure. I believe this to be essential especially in the Volunteer Departments where men as a rule do not undergo a physical examination. An occurence of this kind might easily cause a serious wreck and cost the lives of firemen or of citizens to say nothing of wrecking a high priced piece of apparatus. An accident of this sort would leave some towns or cities without adequate equipment until the apparatus was repaired.

Barney J. Houston, Chief, Cincinnati, Ohio.: In regards to officers driving apparatus in case of accident to regular driver, will say that fire captains and fire lieutenant are required to be efficient in driving fire apparatus before they are appointed as officer.

The Crime of Arson

(*Continued from page* 166)

to the confession of the previous crime, stating the following important law:

"Other similar acts may be shown when the evidence of malice is material, or when a course of conduct or dealing is in question, or in certain instances when a question of habit or custom is involved, or in a criminal case to show motive. . . . Here the similar acts sought to be shown were many months later than that which formed the basis of the action on trial. . . . It is sufficient to say it is not admissible under the general rule. . . . The only evidence that he burned the dance pavilion was the testimony of the Deputy Fire Marshals."

Liability Resulting from Fire

Generally speaking, any failure on the part of a property owner to provide means reasonably necessary to safeguard persons against injury may result in liability. So held the higher Court in Morton vs. Stack, 170 N. E. 869.

In this case it was disclosed that a fire occurred and a person, after having unsuccessfully attempted to escape by an inside stairway, was obliged to remain there for fifteen to twenty minutes before a fireman was able to secure and erect a ladder and assist him from the building. He thereafter, during a period of some weeks, was nervous, would shake, and cry out in his sleep, and apparently live over again the occasion of the fire, and a year and a half thereafter had a convulsion. He sued to recover damages and in holding the owner of the building liable, the Court said:

"The facts would support a reasonable inference that the coughing and subsequent abnormal condition of the defendant in error were attributable to the smoke inhaled during the fifteen minutes, and would tend to prove that the delayed escape was attributable to the absence of the fire escape, which would have afforded an immediate avenue of escape."

New York Department Operations for 1930

The official figures of the operations of the fire fighting force of the New York Fire Department for the year 1930, which will later be embraced in the printed report, were made available for FIRE ENGINEERING a few days ago. They show the following statistics:

In an area of 314.75 square miles, a population of 6,930,446, 637,499 buildings and an assessed valuation of land and real estate amounting to $18,203,528,772, there were 42,459 alarms of fire of which 31,391 were actual fires, and 11,068 false or unnecessary. Fires in buildings, 18,686; 169 in vessels, and 12,536 were miscellaneous.

Of the 31,391 fires, 29,046 or 92 per cent were confined to the point of origin; 1,897 were confined to the building of origin and only 448 extended to adjacent structures; 14,516 fires were extinguished without engine stream; 12,606 with one engine stream; 1,626 with two or three engine streams; 324 with more than three engine streams; 398 with sprinklers; 1,536 with one high pressure stream; 272 with two or three high pressure streams and 113 with more than three high pressure streams.

The time of occurence of the 31,391 fires was: from 6 a.m. to noon 5,788; noon to 6 p.m. 11,354; 6 p.m. to midnight 10,178 and midnight to 6 a.m. 4,071.

The 42,459 alarms were received—3,919 verbally; 30,868 from boxes; 6,698 special; 296 manual; 678 automatic.

The number of fires per 100 structures was 4.92; the number per 1,000 inhabitants 4.53 and the per capita loss $2.61.

The losses amounted to $18,116,305, an increase of nearly a million over the year 1929, but this was principally due to the fire on the German steamship "Muenchen" February 11, 1930, which is given as a $1,330,000 loss. New York fire officials do not regard such a loss of foreign property as chargeable to local losses.

The department pumped 80,489,975 gallons of fresh water on fires during the year and 31,230,330 gallons of salt water. Of the latter 8,416,325 gallons were pumped by fireboats at five fires along the New Jersey waterfront which the New York City Fire Department is required by an ancient law to protect because it is the "harbor of New York City."

As usual the greatest number of fires occured in tenement houses. The heaviest battalion district for fires was the Brownsville section or Ghetto of Brooklyn where there were 1,440 fires last year; the upper east side of Harlem was next with 1,194 fires; the heavily tenanted section of the Bronx was next with 1,117 fires, then came the Negro section of Harlem—the 16th Battalion with 1,076 fires.

WM. JEROME DALY.

Rhode Island Fire Chiefs' Club Dines

Chief Frank Charlesworth served as toastmaster at the third annual dinner of the Rhode Island Fire Chiefs' Club held February 12 at the Narragansett Hotel, Providence, R. I., at which 337 members and a notable list of honored guests were present. The Committee of Arrangements consisted of Arthur L. Aresani, Reuben D. Weekes, former Chief of Providence, A. Robert Black, John T. Carley, Earl H. Batchelder and Charles E. Rounds.

Every part of the state was well represented, and the dinner this year was about the most enthusiastic in the history of the baby association.

The honored guests present at the dinner included:

Governor Norman S. Case
Lieut. Governor James G. Connolly
Senator Harry T. Bodwell
Senator Daniel F. McLaughlin
Senator William H. Vanderbilt
Senator Robert E. Quinn
Senator William G. Troy
Representative Benjamine Cianciarulo
Representative Ira Marcus
Representative Edmund Flynn
Fire Commissioner Walter J. Gilbert
Fire Commissioner Elmer S. Cowan
Fire Commissioner George Mancini
Ex-Fire Commissioner William G. Thurber
David J. Keily, Secretary to Board of Fire Commissioners
Sigmund W. Fischer, Jr., Ass't Attorney General
Frederick S. Peck, Finance Commissioner
William G. Pelkey
William H. Mason
William H. Generaux
Chief Selden Allen, Brookline, Mass.
Chief John O'Hearn, Watertown, Mass.
President Brown
Ernest L. Sprague, Secretary of State
John J. Rosenfeld
Samuel Gee
Raymond Adams
Edward Belheumer
A. H. Blackington

Officers of the Fire Chiefs' Club of Rhode Island for 1931 are:

President, Chief Frank Charlesworth, Providence.
1st Vice-President, Chief Elmer A. Capwell, Coventry.
Secretary, Ex-Chief A. Robert Black, North Providence.
Treasurer, Ex-Chief Arthur J. Billings, Norwood.
Director for 3 Years, Chief John Fleming, Saylesville; Director for 2 Years, Chief Charles Rounds, Warren; Director for 2 Years, Ex-Chief Eugene Parenteau, West Warwick; Sergeant-at-Arms, Willard L. Taylor, Greenwood; Chaplain, Rev. Norris T. Morton, Providence.

County Vice Presidents—Providence County, Chief Thomas Almond, Central Falls; Kent County, Chief Clarence W. Rogers, Fiskville; Washington County, Chief Walter Shannon, Wakefield; Bristol County, Ex-Chief Wilfred A. Monast, Warren; Newport County, Chief William H. Vanderbilt, Newport.

Auditing Committee—Chief Earl H. Batchelder, Centredale; Ex-Chief John H. Reardon, Bayside; Ex-Chief Fred A. Smith, Greenville.

Delegate to R. I. State Firemen's League—Battalion Chief Joseph F. McDonald, Providence, and Alternate Battalion Chief Alexander M. MacKay, Providence.

Newly Elected Chiefs

The following have been elected to head the Fire Departments in their respective municipalities:

Bordentown, N. J.—Charles Y. Kniss
Delanco, N. J.—Luther LeConey
Crosswicks, N. J.—Fred Tantum
Marlton, N. J.—Harry Rose
Jamesburg, N. J.—William Perrine
Hightstown, N. J.—Thomas B. Malone

Help! Fire!.....Immediate Response with A.D.T.

A.D.T. PROTECTION SERVICES

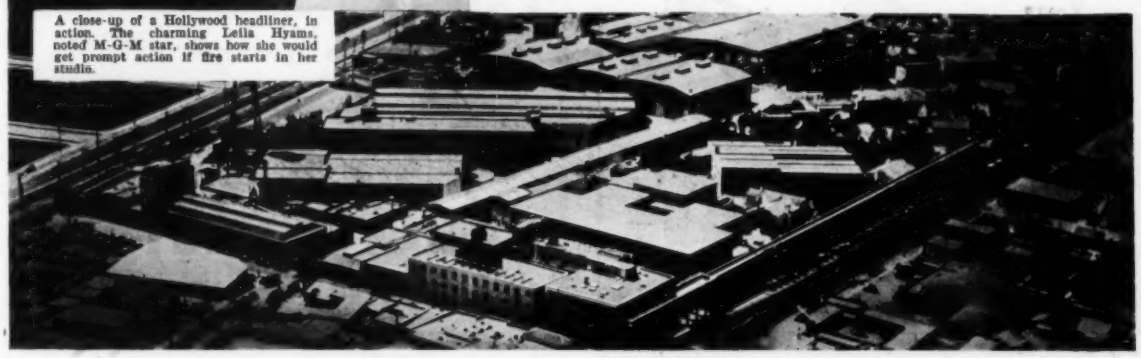
In the extensive M-G-M studios at Hollywood, where positive protection against fire is so essential, A.D.T. Protection Systems stand guard over life and property. A.D.T. protects constantly; when necessary, prompt response of the fire department is assured.

A.D.T. Manual Fire Alarm Systems, with boxes conveniently located, transmit coded fire alarm signals directly to the fire department. Other A.D.T. Systems include Watchman Supervisory Services and Automatic Fire Alarm Systems.

The entire M-G-M Studio is completely protected by an A.D.T. installation that is a model for efficiency—the kind of protection that helps you keep down fire losses. It pays to advocate A.D.T.

Controlled Companies of

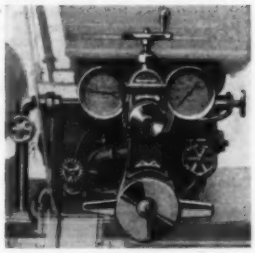
American District Telegraph Co.,
155 Sixth Ave., New York, N. Y.



A close-up of a Hollywood headliner, in action. The charming Lelia Hyams, noted M-G-M star, shows how she would get prompt action if fire starts in her studio.

4971

WATEROUS



COMPACT CONSTRUCTION

A desirable fire pump is one that is flexible in its operation, effectively handling both high and low pressures, but being built within certain limits of size and weight. Such is the Waterous Pump. Equally capable of handling hard jobs is the Waterous Fire Hydrant. Complete information is yours for the asking.

Waterous Dependable

Agents in Principal Cities
WATEROUS COMPANY
St. Paul, Minnesota

ACCURACY IN MANUFACTURING

The Chief Says–

"READ this letter from our friend, George F. Adams, who is Chief over at Exeter, New Hampshire. He sure is a booster for these INDIANS:

Gentlemen:

We use several of your INDIAN Fire Pumps for brush, rubbish and grass fires with splendid satisfaction and praise them highly. They're always ready for instant use and never fail to operate. I am pleased to recommend them to other Chiefs. The INDIAN is well built and gives fine service.

Very truly yours,
George F. Adams (Chief)

Tank Curved to Fit Back

Patented

"Now that's what I call **real** praise. The manufacturers have shown me **hundreds** of letters like this one. You ought to write for a folder they'll send you. It tells all about their pumps and gives the prices. You'll want a supply before those grass fires start."

AGENTS WANTED!

The Smith INDIAN Fire Pump

D. B. SMITH & CO., 417 Main St., Utica, N. Y.
Pac. Coast Agts., Fire Protection Engineering Co.
369 Pine St., San Francisco, Calif.

Novo Acid Jars & Holders

of every description stronger than lead and non-corrosive. Used by departments throughout the country.

Chemical Tanks and Lally Quick Opening and Self-packing Top for Chemical Tanks

Lally Improved Fire Hose Couplings, Fire Extinguishers and Charges, Fire Hose and Fire Department Supplies in General

Send for Complete Catalog

LALLY FIRE APPLIANCE CO.

Wilmington Brass Co., Wilmington, Del.

Quick-Acting Reliable

Anderson-Hale Improved

FIRE STATION DOOR OPENERS

Over 1,300 sets of Anderson-Hale Fire Station Door Openers are in successful use. They provide simple, durable, quick-acting doors that open inward. No obstruction to sidewalk. Attractive in appearance, cannot sag, closes tight, excludes cold, gives clear opening. Opens from driver's seat or from floor. Many repeat orders from users.

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The Anderson Coupling & Fire Supply Co.

Mfrs. Motor Fire Equipment and Fire Supplies

Kansas City, Kansas

COOPER ELECTRO-PNEUMATIC ALARM

In use for Years

Unlimited life

Nothing to get out of order

Powerful—Reliable—Instantaneous

Operates on only 1/10 amount of air required by whistles. Quickest device for coding. May be connected to present system and will operate if power is temporarily off. Produces a powerful and distinct sound audible for miles.

Manufactured by

CLARK COOPER

153-159 Jefferson St. PHILADELPHIA

Comfort and Protection With

CAIRNS CUSHION LINED **HELMETS**

Comfortable as your old felt hat.
Won't shake off.
Never go to a fire without the protection of a good helmet.

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Established 1836

72 GRAND STREET NEW YORK, N. Y.

Fire Alarm Signals
Water Meters
Compounding Valves
Stops
Water Pressure Regulators

Presses for Lining Service Pipe with Cement

Union Water Meter Co., Worcester, Mass.

Incorporated 1868

EDDY
Fire Hydrants

Are given preference by so many fire protection and water works men because they know that more than half a century of experience go into their manufacture and they embody valuable and exclusive features.

Write for the Facts

EDDY VALVE CO.

Waterford, N. Y.

James B. Clow & Sons, Chicago Agents

G

The new Rensselaer Catalog "G" is now ready for distribution. Officials desiring the latest information on RENSSELAER VALVES and COREY HYDRANTS are invited to fill in and mail the coupon below.

RENSSELAER VALVE CO.,
TROY, NEW YORK.

Send Catalog "G" to

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Street .....

City .....

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if you fail to find in our advertising pages any items that you are interested in. FIRE ENGINEERING stands ready to put you in touch with manufacturers of anything you may need, either now or in the future. 24 W. 40th St., N. Y. C., will reach us. A card will do to let us know your wants.

To Punish Firemen for Political Aid

A move has been made by a representative of Kansas City, Mo., to take the Fire Department out of politics. The author of the motion plans to make the bill an amendment to the corrupt practice act, and punishable by a prison term of from two to five years.

The bill contains the following provision:

"Any officer or employee of any police department or fire department in cities now having a population of 300,000 and less than 600,000, who shall assist, aid or abet in any manner, except to exercise his or her individual right of suffrage, or who shall directly or indirectly solicit votes, campaign or electioneer in behalf of any political party organization, candidate for public office, or election proposition, or who shall in any manner, directly or indirectly, assist, aid or abet in polling or canvassing any election precinct, or any part thereof, or who shall enter any home, habitation or place of business where persons live, for the purpose of making any such election poll or canvass, or aid, abet or assist in the making thereof, or shall in any manner, directly or indirectly, solicit, receive or pay, or be in any manner concerned in soliciting, receiving or paying, any assessment, subscription or contribution to or for any candidate for public office, political party organization, or political purpose, and any person who shall solicit or receive, directly or indirectly, or be in any manner concerned in soliciting or receiving, any assessment, contribution, or payment for any political purpose whatsoever from any officer or employee of any such police department, or fire department, shall be deemed guilty of a felony and punished by imprisonment in the penitentiary for not less than two nor more than five years."

Ex-Chief Broderick, of Detroit, Dead

James C. Broderick, nationally known for his fearlessness as a fire-fighter and for ten years Chief of the Detroit Fire Department until his retirement in 1917, died February 27. He was 86 years old. In October, 1871, Chief Broderick, then a company foreman, was a member of one of the two picked Detroit companies that were hurried to Chicago on a special train in response to a call for help when that city burned.

Tentative Standard for Small Hose Threads

A tentative standard for hose coupling screw threads for all connections having nominal inside diameters of ½, ⅝, ¾, 1, 1¼, 1½ and 2 inches, has been published by the American Society of Mechanical Engineers. The committee that has been working on this standard for some time consists of twenty-six members representing twenty national organizations.

The purpose of this specification is to provide a standard which will be recognized and adopted at once by a majority of manufacturers and consumers and toward which the minority may be brought, thereby eliminating many threads now in use, and the confusion and misunderstandings that now prevail.

The basic form of thread is the American National Standard having an angle of sixty degrees and truncated top and bottom. Considerable difficulty was experienced in determining the thread pitch.

Following are the tentative measurements for ¾ and 1 inch nominal diameter chemical hose: Maximum diameter of male thread, 1.375 inches; pitch diameter, eight threads per inch.

For fire protection service, other than chemical hose, the couplings shall be of the following measurements: Nominal diameter, 1½-inch; maximum major diameter of male thread, 2.00 inches; pitch diameter, nine threads per inch.

Experiences With Delayed Alarm

The inadvertence of a layman who was requested to turn in an alarm at Bridgeport, Conn., on January 28, came near resulting in a most serious fire. The fire started in a shoe store and worked its way from the rear of the building into an arcade of stores with a hotel located directly above the shoe establishment.

Fire was discovered by an occupant of the hotel who called out to a bystander to run to the nearest fire box and give the alarm. The fire box, No. 37, is located directly in front of the shoe store. The Fire Department seemed unaccountably slow in responding. Finally an alarm was sent in from another box in the vicinity.

Examination by Fire Department officials, police and insurance underwriters later showed that the bystander who had been sent to turn in the first alarm had smashed the little glass on the fire box and had turned the key in the lock. But that was apparently as far as he went. He had failed to open the door and pull the hook which would have sent in the alarm to headquarters.

Consequently, no alarm was sent from the box. This was just a few minutes after 6 p.m. The box was actually pulled at 6:31 p.m. This gave the fire a headway of about twenty-minutes—a serious matter in connection with the progress of any fire.

On another occasion when a fire had been discovered, a stranger was entrusted to pull a fire box. He had his own idea and ran five blocks to the nearest fire house and since it was late at night, awoke the firemen by pounding on the door and shouting. Technically it was a "still" alarm though actually a noisy alarm.

The company that had been aroused hastened to the fire and finding it to be a bad one, turned in a box alarm, which brought other apparatus. In the event that the box alarm had been pulled in the first place, it would have saved much valuable time.

A good rule for those who discover a fire is to turn in the alarm themselves, and thus to be sure that it is done. A minute or two spent this way may be far more valuable than making futile efforts to check a dangerous blaze without the necessary chemicals or water.

THOMAS F. MAGNER.

Young Heads Mt. Rainer, Md., Department—K. A. Young has been elected Chief of the Fire Department in Mt. Rainer, Md. This makes his fourth consecutive term as Chief.

Inspections Lower Fire Hazards in London, Ky.—The Fire Department of London, Ky., under the leadership of Chief Russell Dyche frequently makes inspection of buildings and makes recommendations for eliminating existing hazards. In one instance by the expenditure of eighty dollars, it was possible to save a company $221.21 a year in insurance premiums.

Chief Washburn and the Cup Awarded Auburn, N. Y.

Chief Fred J. Washburn, Auburn, N. Y., has just received the Louis B. Mayer Trophy awarded his department at the 1930 convention of the International Association of Fire Chiefs for its excellent showing for the year 1929. Presentation of the cup was delayed through technicalities in having the cup clear the U. S. Customs on its return trip from Winnipeg, Canada, where the convention was held.

PROPOSED IMPROVEMENTS

Hubbard, Ohio—Bids will be received March 14, by village clerk, for pumper equipped with 100 gal. booster water tank.

Tallulah, La.—City considering issuing bonds for purchase of new piece of fire apparatus.

Maysville, Ky.—Council to open bids at March meeting for 750 gal. pumper. A. Clooney, Mayor.

Clementon, N. J.—Clementon Vol. Fire Co. No. 1 in market for new or used fire apparatus.

Washingtonville, Ohio — Village Council considering purchase of piece of fire apparatus.

Erie, Penn.—Plans for new fire headquarters completed and were presented to city council. If approved bids will be invited shortly.

Perkasie, Penn.—Reports state fire department may purchase hook and ladder truck.

Bellmawr, Atlantic Co., N. J.—Plans for erection of new fire station were presented to borough council recently. Harry Dott, Chief of Fire Dept.

Williamsburg, Penn.—Steps being taken by volunteer fire department, to raise funds for purchase of community fire truck.

CONVENTION DATES

March 9-11—SOUTHWESTERN ASSOCIATION OF FIRE CHIEFS. 4th Annual Convention, Dallas, Tex. Secretary, Chief J. E. Taplin, Fire Department, Blackwell, Okla.

March 18—FIRE CHIEFS' EMERGENCY PLAN OF WESTCHESTER COUNTY. March Meeting, Fire Headquarters, Greenwich, Conn. Secretary-Treasurer, E. Riviere, Larchmont, N. Y.

April 14-15—NORTH CAROLINA FIRE SCHOOL. To be held at Durham, N. C., under auspices of North Carolina State Firemen's Association. Conductor, Sherwood Brockwell, State Insurance Department, Raleigh, N. C.

April 27-29—TEXAS FIREMEN'S TRAINING SCHOOL. 2nd Annual Meeting, Agricultural and Mechanical College of Texas, College Station, Tex. Director, H. R. Brayton, College Station, Tex.

May 11-16—NATIONAL FIRE PROTECTION ASSOCIATION. 35th Annual Meeting. Toronto, Ont., Can. Managing Director, Franklin H. Wentworth, 60 Batterymarch St., Boston, Mass.

May 18-20—FLORIDA STATE FIREMEN'S ASSOCIATION. 6th Annual Convention, Jacksonville Beach, Fla. Secretary, P. F. Pfaender, Winter Haven, Fla.

May 21—IOWA STATE FIRE CHIEFS' ASSOCIATION. Annual Convention, Ames, Iowa. Secretary-Treasurer, Chief L. R. Morris, Ames, Ia.

May 23—NEW JERSEY STATE FIRE CHIEFS' ASSOCIATION. Quarterly Meeting, Madison, N. J. Secretary, Fred. A. Trowbridge, 17 South Street, Morristown, N. J.

May 25-27—OKLAHOMA STATE FIREMEN'S ASSOCIATION. 37th Annual Convention, Oklahoma City, Okla. Secretary-treasurer, Charles Slemp, 820 East 19th Street, Oklahoma City.

June 3-5—NEW MEXICO STATE FIREMEN'S ASSOCIATION. 9th Annual Convention (Combined with Firemen's Short Course), Clovis, N. M. Secretary-Treasurer, Theodore A. Rosenwald. Albuquerque, N. M.

June 8-10—KANSAS STATE ASSOCIATION OF FIRE CHIEFS and KANSAS STATE FIREMEN'S ASSOCIATION. 15th and 44th Annual Convention, respectively. Also, 3rd Annual Fire College and 6th Annual Convention, Topeka, Kan. Women's Auxiliary. Secretary, Chief K. D. Doyle, Wamego, Tex. Chairman, Fire School Committee, E. J. Stewart,

June 9-10—MINNESOTA STATE FIRE DEPARTMENT ASSOCIATION. 59th Annual Convention, Owatonna, Minn., also, June 8, Annual Convention, the Minesota Volunteer Firemen's Benefit Association, same place. Secretary, Fred Pfaender, New Ulm, Minn.

June 9-11—TEXAS STATE FIREMEN'S ASSOCIATION, 55th Annual Convention, Bryan, Tex. Secretary, Olin Culberson, Edna, Tex.

June 9-12—OHIO FIRE CHIEFS' ASSOCIATION. 14th Annual Convention, Akron, Ohio. Secretary, Chief Philip J. Harty, Youngstown Sheet & Tube Company, Youngstown, Ohio.

June 10-12—FLORIDA FIRE COLLEGE. 2nd Florida Fire College, Sebring, Fla. Address, Florida State Firemen's Association Fire College Committee, Chief Anderson, Ft. Myers, Fla., Chairman.

June 11-13—ARIZONA STATE FIREMEN'S ASSOCIATION. 8th Annual Convention, Flagstaff, Ariz. Secretary-Treasurer, H. W. Reggin, P. O. Box 813, Prescott, Ariz.

June 17—NORTHWESTERN OHIO VOLUNTEER FIREMEN'S ASSOCIATION. 59th Annual Convention, Port Clinton, Ohio. General Chairman of Convention, Harry Smith, Supt. Water Works, Port Clinton.

June 17-20—WASHINGTON STATE FIREMEN'S ASSOCIATION. 9th Annual Convention, Port Angeles, Wash. Secretary, S. H. Jenkins, Bellingham, Wash.

June 19-20—EASTERN ASSOCIATION OF FIRE CHIEFS. 4th Annual Convention, Madison Hotel, Atlantic City, N. J. Secretary, Ex-Chief F. E. Soule, Coatesville, Pa.

June 23-26—NEW ENGLAND ASSOCIATION OF FIRE CHIEFS. 9th Annual Convention, Copley-Plaza Hotel, Boston, Mass. Meetings, Paul Revere Hall, Mechanics' Bldg., Huntington Ave. and Exhibits, Grand Hall, Same Bldg. Secretary, Chief John W. O'Hearn, 99 Main St., Watertown, Mass.; Chairman Exhibits, Chief Daniel B. Tierney, Arlington, Mass.; Traffic Manager, George F. Cobb, 744 Albany St., Boston.

July 8-9—DELAWARE VOLUNTEER FIREMEN'S ASSOCIATION. 11th Annual Convention, and Parade, Dover, Del. Secretary, Sam H. Carson, Dover, Del.

July 13-16—MICHIGAN STATE FIREMEN'S ASSOCIATION. 57th Annual Convention, and 3rd Annual Fire College. Secretary-Treasurer, H. L. Williams, Luddington, Mich.

July 13-16—MONTANA STATE FIREMEN'S ASSOCIATION. 40th Annual Convention, and Firemen's Short Course, Bozeman, Mont. Secretary-Treasurer, D. E. Moser, Bozeman.

Aug. 4-6—WISCONSIN PAID FIREMEN'S ASSOCIATION. 24th Annual Convention, Oconto, Wis., Secretary-Treasurer, William Schultz, Sheboygan, Wis.

Aug. 5-7—CALIFORNIA STATE FIREMEN'S ASSOCIATION. 9th Annual Convention, Santa Rosa, Cal. Secretary-Treasurer, H. E. Strasser, 1171 Tenth St., San Diego, Cal. Chairman, Convention Committee, Chief William H. Muenter, Santa Rosa, Cal.

Aug. 18-21—FIREMEN'S ASSOCIATION OF THE STATE OF NEW YORK. 59th Annual Convention, place of meeting to be decided later. Secretary, Fred A. Davis, Fort Edward, N. Y.

Sept. 1-3—KENTUCKY FIREMEN'S ASSOCIATION. 12th Annual Convention, Louisville, Ky., Secretary, Captain S. G. Fire Department, Louisville, Ky.

Sept. 3-4—WISCONSIN STATE FIRE CHIEFS' ASSOCIATION. 2nd Annual Convention, Portage, Wis. Secretary, Chief A. J. Rahn, Two Rivers, Wis.

Sept. 8-10—ILLINOIS FIREMEN'S ASSOCIATION. 44th Annual Convention, Murphysboro, Ill. Secretary, Assistant Chief Roy W. Alsip, Champaign, Ill. Exhibit information, Chief Albert Herring, Murphysboro. Also, 1st Annual Convention, Ladies' Auxiliary of Illinois Firemen's Association. Secretary, Mrs. R. W. Alsip, Champaign.

Sept. 15-16—IOWA FIREMEN'S ASSOCIATION and IOWA FIREMEN'S FUNERAL AID ASSOCIATION. 54th Annual Convention, Audubon, Ia. Secretary, Paul A. Soener, Independence, Ia.

Sept. 19-22—PACIFIC COAST ASSOCIATION OF FIRE CHIEFS. 38th Annual Convention, Royal Hawaiian Hotel, Honolulu, T. H. Secretary, Jay W. Stevens, 1014 Merchants' Exchange Bldg., San Francisco, Cal.

Oct. 5-8—FIREMEN ASSOCIATION OF THE STATE OF PENNSYLVANIA. 52nd Annual Convention, Wilkes-Barre, Pa. Secretary, Charles E. Clark, 411 Bellevue Ave., Wayne, Pa.

Oct. 14-17—INTERNATIONAL ASSOCIATION OF FIRE CHIEFS. 59th Annual Convention, Plaza Hotel, Havana, Cuba. Meeting Hall, Asturiano Club. Recording Secretary, Chief James J. Mulcahey, Yonkers, N. Y.; Executive Secretary, Jay W. Stevens, 1016 Merchants' Exchange Bldg., San Francisco, Cal.; Chairman, Exhibit Committee, Chief Charles A. McGinley, East Orange, N. J.

Oct. 20-22—NEBRASKA STATE VOLUNTEER FIREMEN'S ASSOCIATION. 50th Annual Convention, Norfolk, Neb. Secretary-Treasurer, H. A. Webbert, Kearney, Neb.

J. A. Wynes with Gamewell Company

J. A. Wynes, has been appointed Sales Engineer of the The Gamewell Company, with headquarters in the Praetorian Building, Dallas, Texas.

He has had very extensive telephone experience beginning with the Bell Telephone Company in Iowa in 1902 and ending in the Sales Department of the Western Electric Company. Following the World War, he entered the storage battery business, and later he became a representative of the old Harrington-Seaberg Corporation. He had charge of the traffic signal sales for that organization.

Mr. Wynes has traveled extensively and has many friends in the municipal departments of the Southwestern territory.

J. A. Wynes

No Noise Tolerated

Even students must have quiet—at times. During the study hour at the Pennsylvania State College, State College, Pa., fire was discovered in a fraternity house. Fire whistles blew, engines clanged, and firemen raced up the stairs and on to the roof of the building.

A door on the second floor opened and a student shouted: "What's the big idea? Don't you guys know this is study hour? Pipe down."

Firemen poured their chemicals down a chimney, extinguished the chimney fire, and walked quietly away.

Fall River Considers Station Plans—Meetings have been held in Fall River, Mass., to consider plans and specifications for the new central fire station.

Providence May Erect Fire Station—Providence, R. I., is considering the purchase of land on which to erect a fire station. The entire project, it is estimated, will cost $75,000.

Buffalo, N. Y., Starts on Headquarters—Construction will start soon on a fire department headquarters building in Buffalo, N. Y. The comptroller was directed to issue $334,000 bonds for the improvement.

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A Siren for Every Purpose

Chief Cars
Fire Trucks
General Alarm
Coding - - -

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The World's Oldest and Largest Exclusive Manufacturers of Sirens

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Newest Designs ***Highest Quality***

Specializing in badges and insignia equipment for every fire department need, the EVERSON-ROSS line, known for its fine quality of materials and workmanship, offers a large, up-to-date selection to suit the most discriminating taste. Before you buy—

Write for our Fire Department Badge Catalog No. 32.

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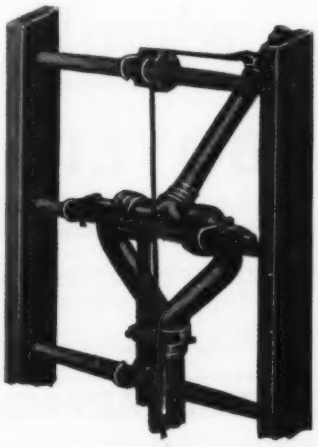

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MADE in two sizes—600 and 1100 Gallons Per Minute. Readily attached to any ladder. Built for use with 2½" or 3" Hose. Made in Aluminum when so desired. A product of

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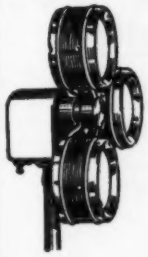
The most Effective Combination of Warning Signals



BUCKEYE "ROTO-RAYS"—A silent signal of unquestioned effectiveness to protect your apparatus and your firemen against accidents.

At night these three revolving red signal lights make identification of the apparatus instantly possible as far as light is visible.

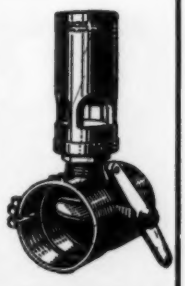
Insist upon having "Roto-Rays" on the next piece of apparatus you buy. It's just as essential as the whistle, the siren or the bell. Easily installed on apparatus now in service.

The Powerful BUCKEYE EXHAUST WHISTLE predominates in over 600 fire departments where serious traffic problems exist.

The shrill blast of a Buckeye Whistle effectively carries far ahead of the apparatus. Its sound is distinctive and extremely penetrating.

"Roto-Rays" and a Buckeye Whistle form the most effective combination of Warning Signals in existence.

Prices and full particulars upon request.



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WARNING SIGNALS THAT WARN

New Victor Gas and Fume Mask

Better Rubber. Longer Life. Better Fitted. Moulded to Fit the Face. Better Vision. Renewable Lenses. Better Air. Better Work. Low Prices. High Ouality.

Over 5,000 Victor Gas Masks in Service

Full Line Fire Dept. Supplies and Equipment

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BUFFALO, N. Y.
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Clay Automatic Door Opening Devices for Fire Station Doors Opening either In or Out. Save valuable minutes in getting to fires. Send for Bulletin.

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THE BI-LATERAL FIRE HOSE CO.

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If you purchase BI-LATERAL FIRE HOSE it will increase the value of your hose-carrying apparatus more than the cost of the load of Bi-Lateral Fire Hose.
We can load from 25% to 33% more and when coupled with rocker lug couplings the Bi-Lateral hose makes an apparatus one to be proud of and as near perfect as possible to do quick and efficient service.

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FIREMEN'S UNIFORMS

Thoroughly tailored of especially selected fabrics. Uniforms that look well, wear well and that will give entirely satisfactory service.

Reed's Uniforms are most economical because they represent full value for the amount expended.

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Builders of equipment to meet your requirements. Specializing in Apparatus for Rural Fire Fighting.

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Standard Over Fifty Years

OFFICIAL BADGE
Made in 14K Gold and Rolled Gold only

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All Types

All Sizes

If you are thinking of buying new apparatus shortly, be sure to get all the facts about MAXIM before you decide.
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FIRE PREVENTION ORDINANCE FOR CITIES AND TOWNS

It Establishes Bureau of Fire Prevention—Prescribes Regulations for Hazardous Materials and Processes

(*Continued from last issue*)

THE following Fire Prevention Ordinance has been prepared by Engineers of the National Board of Fire Underwriters and is recommended by that organization for adoption by cities and towns. While it is not expected that in all cases smaller cities will find need for an ordinance of such length, it is recommended by the Board that a complete set of regulations be adopted in all cases, for even though there may be no immediate need of regulation of a particular hazard, every growing community is sure to have these hazards introduced sooner or later, and it is better to be prepared for them than to develop unrestricted and then try to regulate them. The ordinance is being published in its entirety serially in FIRE ENGINEERING. *Continuation of Part* 14, *Combustible Fibres:*

1405. Quantities exceeding 500 cubic feet of loose combustible fibre may be stored in approved vaults, constructed as follows:

(a) Storage vaults shall preferably be located outside of buildings. If located inside, safety vents to outside air shall be provided.

(b) Walls, floors, and ceilings shall be constructed of brick or other approved non-combustible material. Roofs of outside vaults shall likewise be of non-combustible material but may be so constructed as to readily give way in case of an internal explosion.

(c) Openings, if any, between vault and main building shall be protected on each side of the wall by an approved fire door. Wall openings in outside vaults exposing other property (not sufficiently detached to be considered cut off) shall be protected by approved fire doors or equivalent.

(d) Vaults located within buildings and exceeding 1,000 cubic feet storage capacity shall be protected by approved automatic sprinklers, if possible. Where such protection is not available steam jets or inert gas systems approved for fire extinguishing purposes shall be installed.

(e) Not to exceed 2,500 cubic feet of loose fibre may be stored in detached "loose house" suitably located, with openings properly protected against entrance of sparks. The "loose house" shall be used for no other purpose.

1406. Blocks or piles of baled fibre shall be separated from adjacent storage by aisles not less than 5 feet wide; or by flash fire barriers consisting of continuous sheets of non-combustible material extending from floor to a height of at least one foot above the highest point of piles and projecting at least one foot beyond the sides of the piles.

1407. Sisal and other fibres in bales bound with combustible tie ropes, also jute and other fibres liable to swell when wet, shall be stored to allow for expansion to the extent of 20 per cent. of their bulk in any direction without endangering building walls, ceilings or columns. Not less than 3 feet clearance shall be maintained between sprinkler pipes and tops of piles. Not less than 3 feet clearance shall be left between walls and sides of piles, except that if storage compartment is not more than 30 feet in width, one foot clearance at side walls will be sufficient, provided a center aisle not less than 5 feet wide is maintained.

Part 15. Refrigeration

1501. (a) No installation of a refrigerating unit or system containing in excess of 20 pounds of refrigerant shall be made until a permit has been obtained from the Bureau of Fire Prevention, except that no permit shall be required for non-condensing refrigerating systems using air as a refrigerant.

(b) Systems requiring a permit and containing any refrigerant which is harmful to health and the vapors of which are not readily apparent through odor or irritating effect shall have added to such refrigerant a suitable leak detecting agent which will give warning before dangerous concentrations are reached. This restriction shall not apply to systems employing carbon dioxide.

1502. Except in plants used exclusively for ice making, refrigeration or cold storage no system containing over 100 pounds of irritant or flammable refrigerant shall be installed unless it conforms to the following provisions:

(a) Refrigeration shall be by the indirect method, except that direct refrigeration will be permitted in rooms, vaults or other spaces used for storage only, or in connection with a manufacturing process located on the ground floor only and with adequate exit facilities. No brine circulating system employing a brine having a flash point below 100° F. shall be permitted in any location in which an indirect system only is permissible.

(b) Each compressor shall be in a special machinery room with suitable exit to the outside. Adequate means for ventilation shall be provided by a door or window opening to the outside or a mechanical system of ventilation shall be provided.

(c) Remote control shall be provided such that all machinery can be shut down without entering the machinery room.

(d) Suitable mask shall be provided, which shall be kept in operative condition in an easily accessible case or cabinet immediately outside the machinery room.

(e) All doorways between the machinery room and other parts of the building shall be normally closed and shall be room and other parts of the building shall be permitted.

(f) No open flame or spark producing device shall be permitted in any refrigerating machinery room with a system tight fitting. No other openings between the machinery containing a flammable refrigerant.

1503. (a) No system containing over 1,000 pounds of refrigerant having a flash point below 25°F. shall be permitted within the following limits: (Boundary limits should include the mercantile and closely built residential sections.)

(b) No system of the intermittent absorption type containing over 1,000 pounds of refrigerant shall be permitted, and no system of the intermittent absorption type containing over 100 pounds of refrigerant shall be permitted unless the heating medium is low pressure steam.

1504. (a) All refrigerant piping, tubing and fittings shall be of a material suitable for the refrigerant employed.

(b) Standard wall thickness pipe may be used where a test pressure of 300 pounds or less is required; where the test pressure is in excess of 300 pounds extra heavy pipe shall be used. If flanged fittings are used they shall be of the recessed gasket type. Piping shall be rigidly secured in place.

(c) Approved seamless metal tubing of copper or other material suitable for the refrigerant may be used for refrigerant lines in systems containing not over 100 pounds of refrigerant.

(d) Elevator, dumbwaiter or other shafts containing moving objects shall not be used for outlet or junction boxes, nor for tubing or piping carrying refrigerant.

(e) Systems of more than 20 pounds capacity, or systems supplying two or more evaporators, and using seamless metal tubing for refrigerant lines, shall have all such tubing, except between the compressor and the nearest riser box or manifold, installed in iron pipe or other metal enclosure, with suitable metal outlet boxes for manifolds and for all valves except those at the evaporators. Flexible metal enclosures may be used at bends or at terminals if not exceeding 6 feet in length and rigidly fastened to connecting pipe and/or valve boxes. Each run of pipe shall be sealed or plugged at each junction box inlet with a material not affected by moisture or the temperature of the line. All joints shall be accessible and shall be of sweated types, except that flared joints may be used for tubing not more than 5-8 inch in diameter and where the required test pressure does not exceed 180 pounds. Enclosures shall be rigidly secured to the walls or other support. Tubing shall be independently supported in such a manner as to prevent excessive vibration and strains at joints and connections. Valves, service connections and joints in tubing shall be rigidly secured in suitable metal boxes at accessible points.

(*To be continued*)

Friday the 13th Unlucky for Jokers

Two practical jokers are meditating in a New York City jail that Friday the thirteenth is a most unlucky day for sending in a false alarm. In fact the box selected had a bad history as far as unwarranted calls were concerned. Since the first of the year, twenty false alarms had been sent from that box, and the policemen on the beat were cautioned to watch the box. The two men, one twenty-five and the other thirty-nine years old, were caught and charged with malicious mischief.

California Firemen to Meet in Woodland—The district meeting of the Northern California Firemen's Association will be held in Woodland on March 22.

FALSE ALARMS

DITTO TO THAT

Jerry was unusually happy as he polished the brass work that morning. The boys were exceptionally curious, for Jerry could still be classed among the newlyweds.

"Why shouldn't I whistle?" asked Jerry. "I'm the happiest man alive. I've got the finest wife in the country."

"Yeh," answered his buddy, a man of the old school. "That does make a man happy, having his wife in the country."

No man's opinion is entirely worthless. Even a watch that won't run is right twice a day.

THE LAST STROKE

In a certain California city the Chief and the chaplain were very friendly and also considerably interested in golf. The two were out on the links one afternoon and the chaplain was being badly beaten.

"Cheer up," said the Chief good naturedly, "remember you will win at the finish. You'll probably be burying me some day."

"Even then," said the chaplain, "it will be your hole."

The thing that the average man has the most difficulty in keeping under his hat is a good head of hair.

CAREFUL

The Fire Department held an indignation meeting to complain of the way the members were being treated. Through the good offices of a fire buff, the meeting was held in a rather fashionable club.

One of the speakers warming up to his task, took off his coat, to get greater freedom. A steward was very much disconcerted for fear that a reporter might be present and play up the incident in his story. After the close of the talk, he went up to the officer and said:

"Pardon me, I don't suppose you knew when you removed your coat that a newspaper man was present."

"Yes I did," said the officer. "I kept my eye on the coat all the time."

Don't throw it away because it looks like a bridge prize. It might be a vacuum-cleaner attachment.

THE REASON

For years, Tom had been the Chief's special chauffeur. Then one day his friends were surprised to see that he had joined the army of unemployed who spent their time in the park. A friend asked how it happened.

"Oh, the Chief and the Commissioner fell out," explained Tom.

"But what has that got to do with it?" asked the other.

"Well if you must know, they fell out of the car."

A BORN DIPLOMAT

A member of the department sometimes forgets that there are times when he is supposed to abide by the traffic rules. All would have been well if some new motorcycle policemen had not been added to the local force. An ambitious one hailed a motorist.

"Hey you! Didn't you hear me say, 'Pull over'?"

"Why, I thought you said, 'Good morning, Commissioner'."

"I sure did," said the cop. "Nice day, isn't it, Commissioner?"

Then there was the one about the flapper who went to the dentist, and when he said he was out of gas, she got out of the chair and walked home.

EDITORIAL COMMENT

Off with the nightshirt! This is serious advice. The longtailed sleeping robe has been responsible for many fires, due to its contact with open grates and gas heaters in the homes.

One girl in the arm is worth two in the rumble seat.

FIRST AID

Dense vapor clouds filled the plant of the chemical company. They were acid fumes that soon affected the firemen. A number had to be carried out and placed near an adjoining building for medical attention. The poor lone doctor was a busy man, indeed. He gave first aid to one fireman and then went around the corner to look at another case. When he came back, he was dumfounded. He shouted:

"Great Heavens! Who stuffed that towel in the patient's mouth?"

"I did, Doc," said the victim's friend. "You told me to keep him quiet."

And no matter how crowded two people are in a kitchenette apartment, there always seems to be room for arguments.

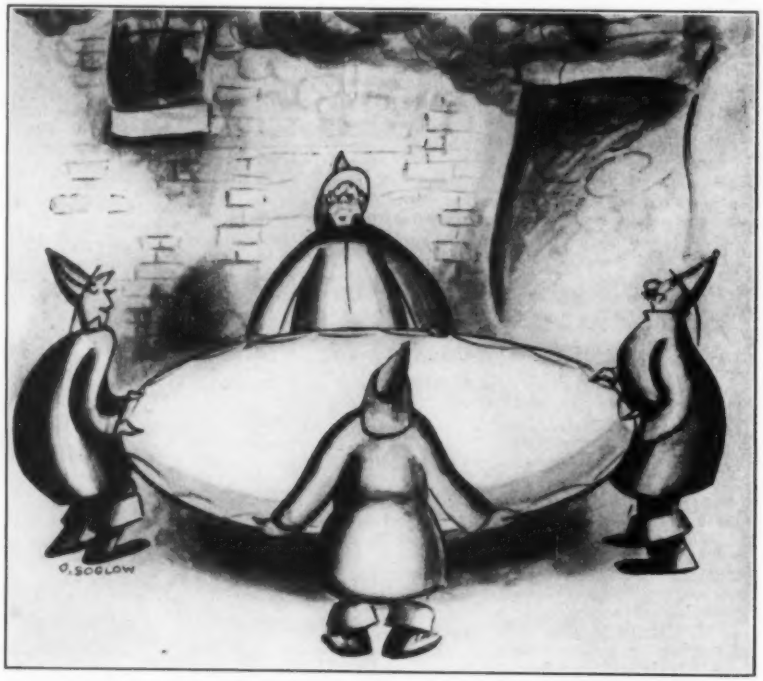
HE WAS THOUGHTFUL

A newspaper offering one dollar each for "My Most Embarrassing Moment" letter received the following:

"I was working on the late shift in the Fire Department. Early in the evening we had a fire and I was overcome by smoke and ordered home. When I came home I found another man calling on my wife. I was very much embarrassed. Please send me two dollars as my wife was also embarrassed."

The editor sent a check for three dollars, admitting the possibility that the stranger too might have been embarrassed.

We don't know which makes for a duller evening—a women telling about the removal of her appendix, or a man telling about his stock market operations.



Courtesy of Colliers

"Goodness, I didn't think they wore those things any more."

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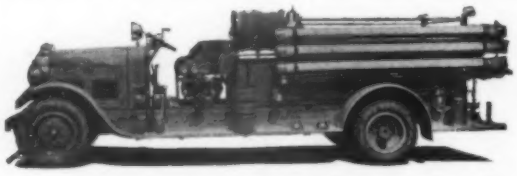

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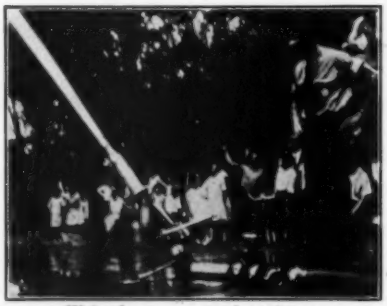

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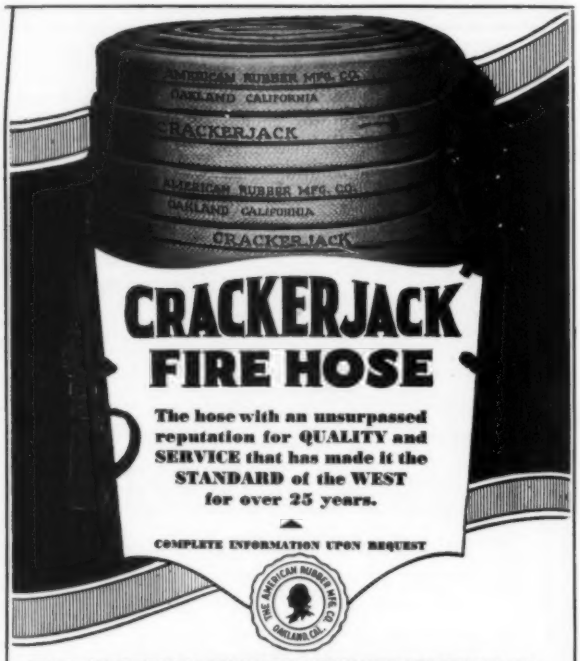

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Devils Lake N. D.
Portland, Ore. (2)
Emporium, Pa.
Reading, Pa.
New Orleans, La.
Floral Park, L. I.
N. Providence, R.I.
Huntington Park, Cal.
Murray City, Utah
Annapolis, Md.
Jersey City, N. J.
Stony Creek Mills, Pa.
Lynbrook, L. I.
Hempstead, L. I.
Peekskill, N. Y.
Baker, Ore.
Charlestown, W. Va.
Vails Gate, N. Y.

MACK TRUCKS, INC., *Fire Engine Division*, 25 Broadway, New York, N. Y.

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